

Measurement methods: WiBe

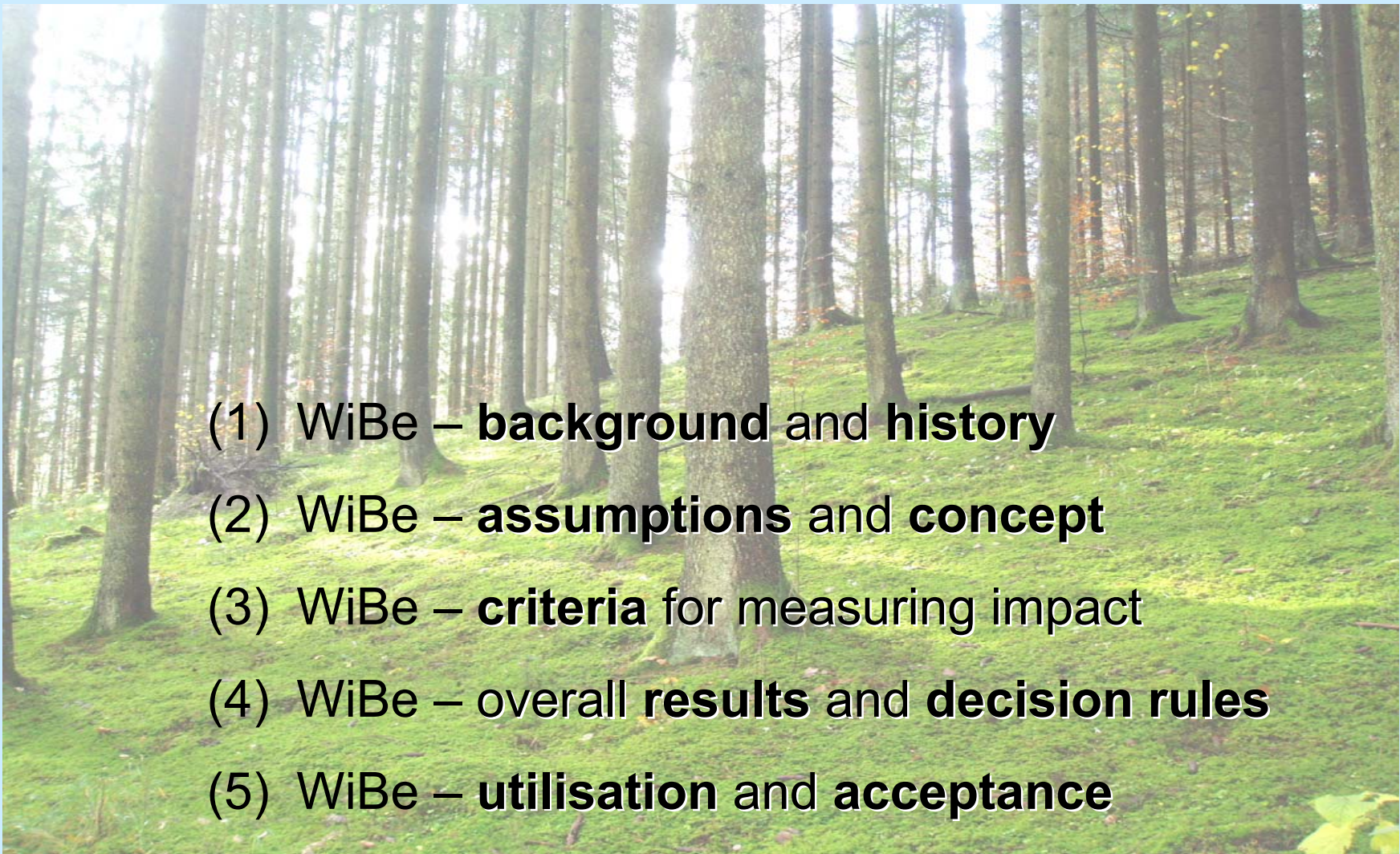
A large graphic on the right side of the slide, featuring three stacked squares (brown, yellow, red) similar to the one in the top-left corner. To the right of these squares, the text 'WiBe 4.0' is displayed in a large, bold, black font. Below it, the subtitle 'Recommendations on Economic Efficiency Assessments in the German Federal Administration, in Particular with Regard to the Use of Information Technology' is written in a smaller, black font. Underneath the subtitle, 'Version 4.0 - 2004' is written in an even smaller font. At the bottom right of this graphic area, the text 'Presentation by Dr. Peter Röthig' and 'WiBe-TEAM PR • www.wibe.eu' is displayed in a bold, black font.

WiBe 4.0
Recommendations on Economic Efficiency
Assessments in the German Federal
Administration, in Particular with Regard to
the Use of Information Technology
Version 4.0 - 2004

Presentation by Dr. Peter Röthig
WiBe-TEAM PR • www.wibe.eu



WiBe – 5 points to visit ...

- 
- (1) WiBe – **background** and **history**
 - (2) WiBe – **assumptions** and **concept**
 - (3) WiBe – **criteria** for measuring impact
 - (4) WiBe – overall **results** and **decision rules**
 - (5) WiBe – **utilisation** and **acceptance**



(1) background and history

*Wi*rtschaftlichkeits-
*Be*trachtung

- WiBe is one of the first frameworks for assessment of economic efficiency of federal administration
- focusing on IT/ICT-measures and **projects**
- 1st version **1992**, revised 1997, 2001
approved by Federal Court of Audit (BRH)
- eGovernment-initiative 'BundOnline 2005'
'make all Internetable services of the federal administration available online' ▶
- **WiBe V 4.0** with additional focus on "external effects" on external customers/users (**2004**, 2007)
- today WiBe = **in fact legal standard** for assessing investments with substantial financial meaning





(2) assumptions

- assessing economic efficiency in ICT-projects is a must
- efficiency gains out of ICT-projects are a result of
 - quantitative impacts (directly cashable)
 - qualitative impacts (not to be rendered in monetary terms)
- a "purely" monetary cost-to-benefit analysis would disregard important qualitative factors
- both aspects of ICT-projects have to be integrated





(2) concept:

integrating monetary and non-monetary impacts ...

costs and benefits which can be assessed in monetary terms ...

concerning the new ICT measure:

- **development costs**
- **operating costs**

concerning the existing solution:

- **development benefits** (due to the replacement of an existing solution)
- **operating benefits** (savings from replacing the existing solution)

monetary figures are separated into their

- budget-relevant portion
- non-budget relevant portion

▶ **net present value method**

(considering different points in time of payments and disbursements, result is given in Euro)

additional qualitative decision facts ...

■ **Urgency**

to replace an existing solution

- **Qualitative/strategic importance** of the intended ICT measure

■ **External Effects**

on customers (citizens, companies, other administrative organizations)

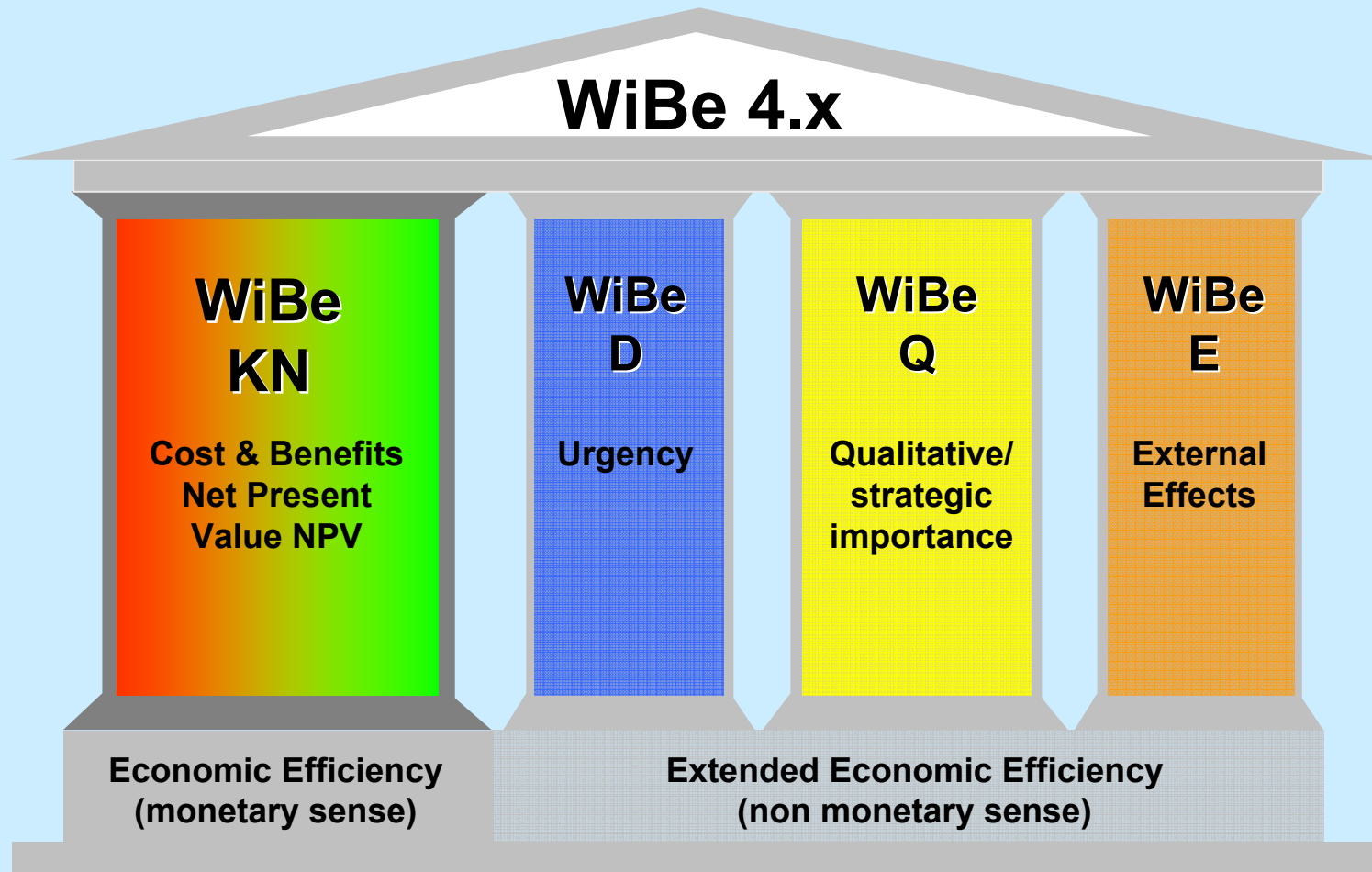
decision facts are assessed via

- predefined and weighted criteria
- each with a scoring scale from 0 to 10

▶ **benefit analysis / decision matrix**

(transforming qualitative impacts into indexes, indexes are between 0 and 100)

(2) **concept:** WiBe considers 4 impact dimensions ...





(3) measuring impact (overview, shortened)

▶ **monetary criteria** (n=37)

- 1 **Development costs** of the new ICT measure
(and potential benefits due to replacement of old process)
 - ▶ *e.g. costs for planning, system, system introduction ...*

- 2 **Operating costs and operating benefits**
 - costs ▶ new ICT measure
 - benefits ▶ discontinuation of old ICT measure

 - 2.1 **system costs / savings**
(host, server, network, hardware consumables, energy ...)
 - 2.2 **personnel costs / savings**
 - 2.3 **maintenance & service costs / savings**
 - 2.4 **other operating costs / savings ...**



(3) measuring impact (overview, shortened)

► **urgency criteria** (n=11)

3.1 **Urgency to replace the old system**

- **support continuity** for the old system
- Replacement urgency due to **logistic/capacity aspects**
- **Stability** of the old system
(bugs, downtime, service problems)
- **Flexibility** of the old system
(limits of upgrading, interoperability, interface problems, ergonomics)

3.2 **Compliance with administrative regulations and laws**

- Compliance with **laws** (► knock-out criterion)
- Fulfilment of **data protection** / security requirements
- Correct **procedures** and work processes
- Compliance with other **requirements** and recommendations
(e.g. Federal Court of Audit - BRH)



(3) measuring impact (overview, shortened)

► **qualitative and strategic importance** criteria (n=13)

4.1 Priority of the ICT measure

relevance within the ICT framework concept –
integration into the ICT landscape of the federal administration in general –
pilot project nature – use of existing technologies –
platform-/manufacturer **independence**

4.2 Increase in quality of dedicated tasks

improved **job performance** – **acceleration** of work procedures and
processes – **standardisation** of administrative work – **image** improvement

4.3 Control of information of the administrative/political level

provision of information for decision-makers and controllers –
support for decision-making/leadership tasks

4.4 Staff-related effects

attractiveness of working conditions –
ensuring/expanding **qualifications**





(3) measuring impact (overview, shortened)

▶ **external effects criteria** (n=11)

5.1 Replacement urgency

from the **external customer's** perspective

5.2 User friendliness from the customer's perspective

implementation of a uniform and standardised **access** – increasing **understandability** and reproducibility – **help** functions for customer support – benefits due to the timely **availability** if information

5.3 External economic effects

5.4 Increased quality and performance

follow-up effects for communication partners – externally perceived **acceleration** of administrative decisions – **simplification**/support of multi-level /multi-agency cooperation – **extension** of service offered

5.5 Synergies – use of project results for **comparable projects**



(3) measuring impact (overview, shortened)

► qualitative criteria: how to assess ...

Urgency ■ Qualitative/strategic importance ■ External Effects

▪ predefined and weighted criteria

▪ each with a scoring scale from 0 to 10

No.	Criterion	Weight
3.1.1	Support continuity for the old system	5
3.1.2	Urgency to replace the old system due to logistic/capacity aspects	5
3.1.3.1	Bugs, errors and downtime	10
3.1.3.2	Stability of the old system:	
	4.3.1.3.1 Bugs, errors and downtime	
3.1.4.1		
3.1.4.2		
3.1.4.3		
3.2.1		
3.2.2		
3.2.3	Correct procedures and work processes	15
3.2.4	Compliance with requirements and recommendations	10
Total		100

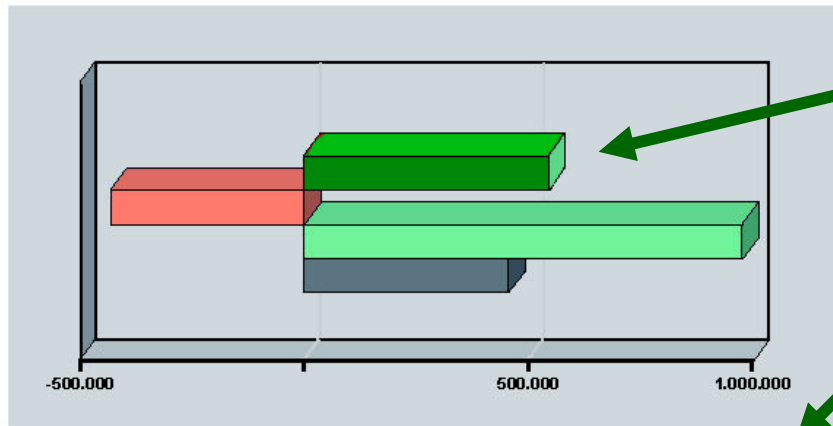
0	2	4	6	8	10
Not endangered.	Hardly endangered.	Endangered to a minor extent, still acceptable.	Endangered to an average extent, problematic.	Above-average risk, highly problematic.	Very seriously affected, not acceptable.

(4) overall results and decision rules (example, part one)

WiBe Gesamtübersicht

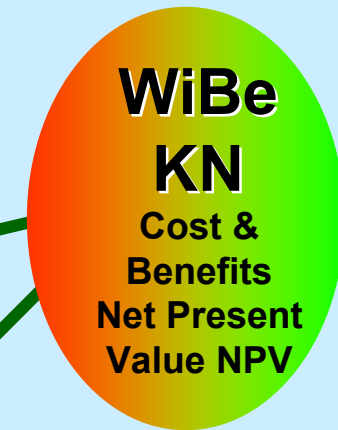
EXAMPLE WiBe Economic Efficiency Assessment			
Version:	Freigabe-Kalkulation (Version 3)		
Alternative:	Alternative 3		
Kurzident:	EX-WiBe	Anlagedatum:	31.03.2008
Projektstart:	01.07.2008	Projektende:	31.01.2009
Basisjahr WiBe:	2008	Berechnungsjahre:	5
Berechnungsjahr:	2008	1. Jahr ohne Abzinsung:	Nein
Zinssatz:	6,000	Aufzinsung (optional):	6,000
Katalog:	Genereller IT-Kriterienkatalog Version 4 (für WiBe 2007, Stand 04/2007)		
Projektleiter:	Administrator		
Bearbeiter:	wibe	zuletzt gespeichert:	26.05.2008

Monetäre Kennzahlen



Kapitalwert	545.250,28 €
Kapitalwert/haushaltswirksam	-432.623,10 €
Kapitalwert/nicht haushaltswirksam	977.873,38 €
Risikowert	455.239,75 €

Economic Efficiency (monetary sense)



$KN / NPV > 0$

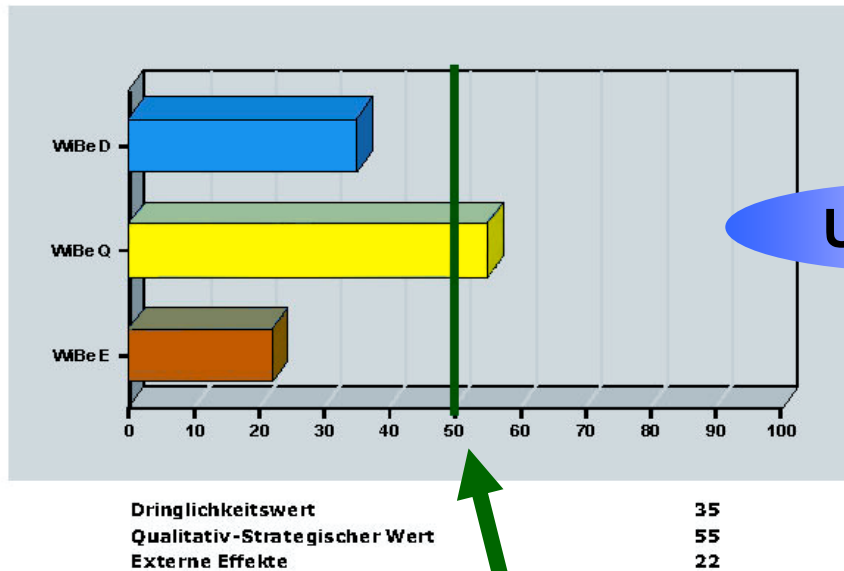


$KN / NPV < 0$



(4) overall results and decision rules (example, part two)

Qualitative Kennzahlen:



Extended economic Efficiency (non-monetary sense)

Urgency

Qualitative & strategic importance

External effects

an index "jumping over the 50% hurdle" is a general condition to outweigh a negative NPV

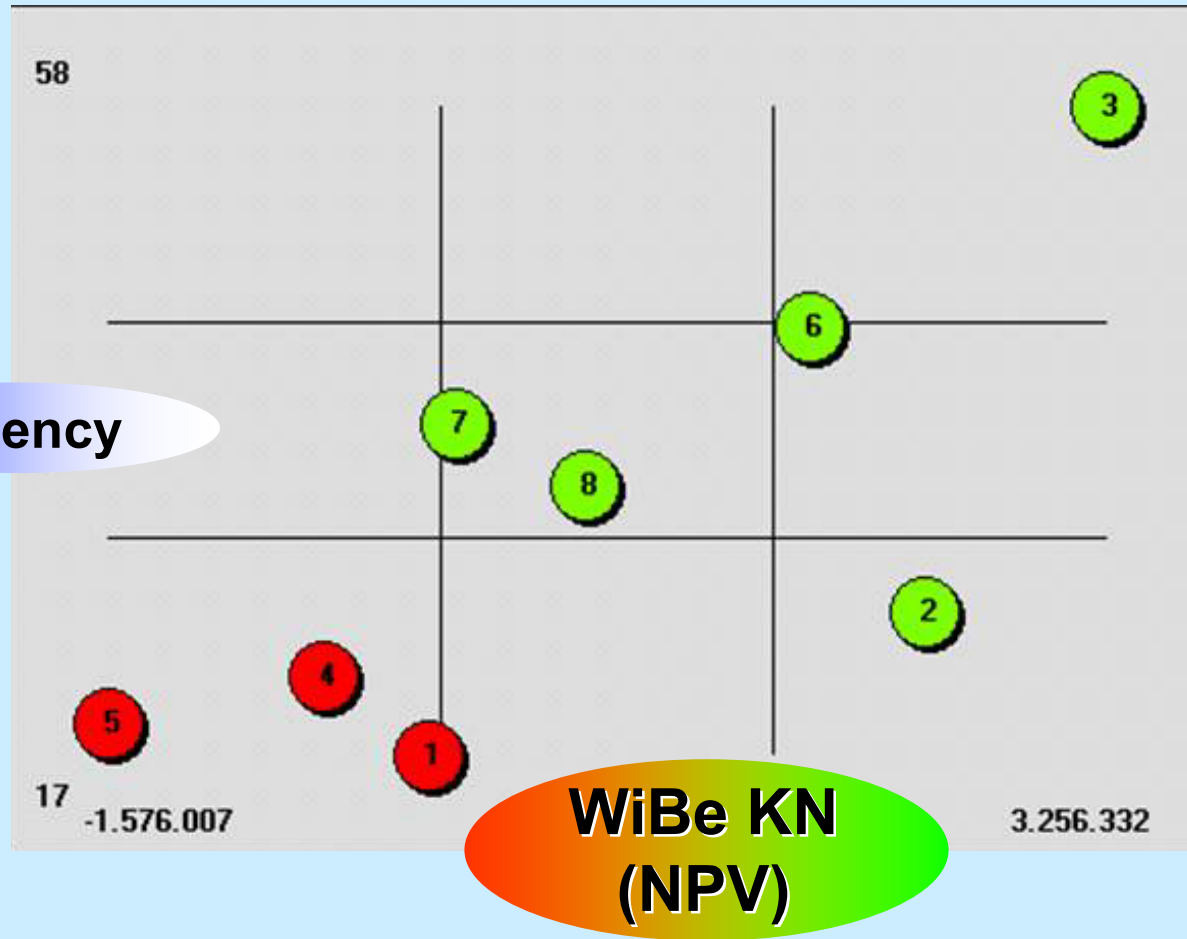
► **ICT-project may (!) be marked as "efficient in the extended sense"**





(4) overall results ► ICT-projects portfolio (example)

Urgency



(5) utilisation and acceptance

- *quote from (p. 25):*



2.7 Lessons learnt from the state of the art review

"In Germany the WiBe 4.0 methodology is in full operation and being applied widely."

- Bund ► **federal** administration
- Länder ► **state** administration
- Kommunen
► **communal** administration