ZeroWIN - Towards Zero Waste in Industrial Networks

Practical Demonstrator: "ReUse ICT Network"

by

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UP GmbH

Zero WIN
Towards Zero Waste in Industrial Networks

Agenda

1. Description of Demonstrator
2. Main tasks
3. Reduction of solid waste/GHG emissions/waste water
4. Conclusions

1. Description of Demonstrator

Basis: ReUse-Computer e.V.

- **network of SME, wholesalers, NGOs and research institutes**
- **high-quality IT re-use**
- **established in 2005, focus: B2B**
- **turnover: appr. 40,000 appliances**

Approach	Methods
A. Enhance re-use ICT business opportunities and operations	A.1 – Resource Exchange Platform (RXP) **Develop and optimize a RXP, that enables tracking, refurbishment and re-use of used ICT equipment**
	A.2 – Acquisition
	A.3 – Marketing strategy
	A.4 – Service instead of sales
	A.5 – Take back
B. ReUse best-practice guidance	B.1 – Technical guidelines **Develop a technical guidance for re-use ICT operations**

Approach	Methods
C. Test the transferability of the ReUse ICT concept to other product categories	C.1 – Comparative study
	C.2 – Extension of RXP **Enable and test the trade of other product categories over RXP**
D. Test the transferability of the ReUse ICT concept to other regions	D.1 – Market survey

1) Enhance network

Enhanced ReUse-Computer e.V.

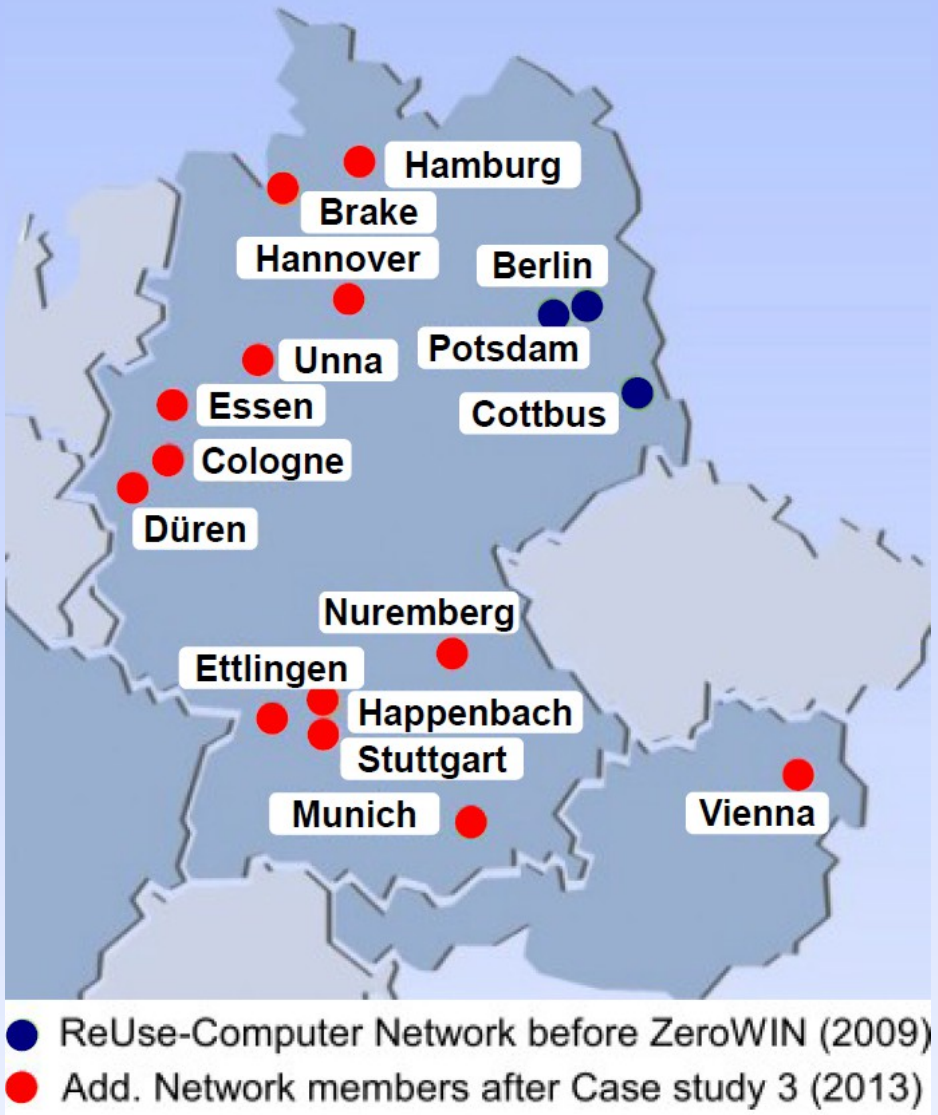
→ 27 organisations (2013)

→ more shops and workshops

→ Turnover increased to

280,000 appliances p.a. (2013)

NEW: Sapos gGmbH as recycler



resource-exchange-platform.eu

open beta

Home | Sale | Rental | Request | Search | Register | Imprint | Login

- **EDP equipment(9)**
  - Computer(4)
  - Laptop(1)
  - Monitor TFT(4)
- Glass(1)
- Measurement devices(3)
- Metals(2)
- Others - Recycling(3)
- Others - ReUse(5)
- Paper and cardboard packings(4)
- Plastics(1)
- Telecommunication devices(1)
- (1)
- wood(1)

Selling products

DL2e
Datalogger with up to 60 input-channels ...
Selling price: 1800.00
Product location: Cottbus
more ->

1905FP
DELL
TFT-Display / Serie: Dell UltraSharp / Bildschirmdiagonale: 48,3 cm / Bild...
Selling price: 49.00
Product location: Berlin
more ->

Samsung SyncMaster 172S
Samsung
LCD-Monitor - 43.2 cm (17") - 1280 x 1024 - 250 cd/m2 - 350:1 - 30 ms ...
Selling price: 22.00
Product location: Berlin
more ->

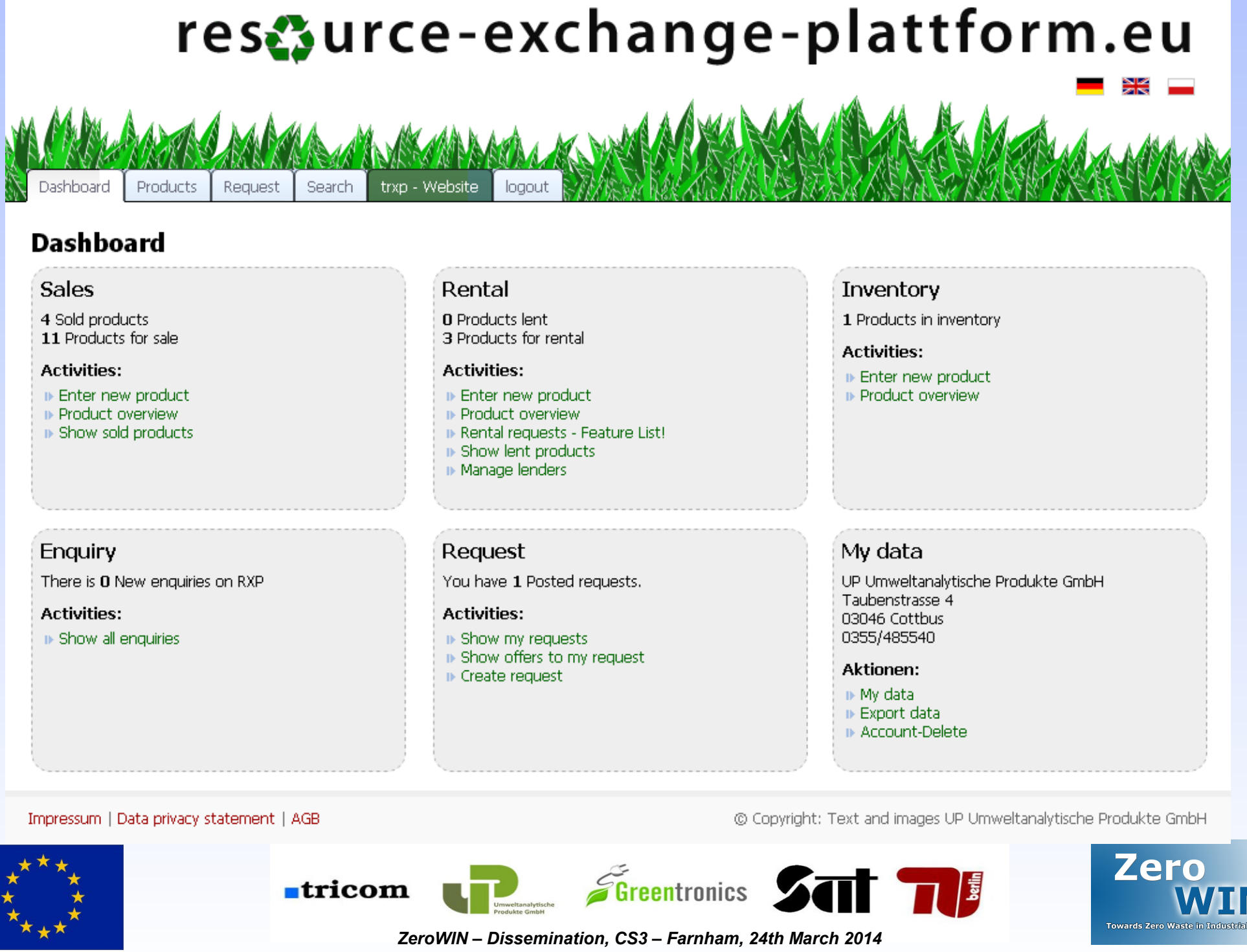
15
DELL
TFT-Display / Serie: Dell UltraSharp / Bildschirmdiagonale: 38,1 cm / Bild...
Selling price: 19.00
Product location: Berlin
more ->

Samsung SyncMaster 171S
Samsung
Samsung SyncMaster 171S - LCD-Monitor - 43.2 cm (17") - 1280 x 1024 - ...
Selling price: 22.00
Product location: Berlin
more ->

Optiplex GX280 Small Desktop
DELL
PC schwarz P4 3.0GHz 1024 MB 80GB DVD Windows XP vorinstalliert...
Selling price: 99.00
Product location: Berlin
more ->

OptiPlex GX150 SFF
DELL
Pentium 3, 1 Ghz, 512 MB, 20 GB HDD, ohne CD Win2000 engl. vorinstalliert...

MCITP Windows Server 2008...
MCITP Windows Server 2008 Server Administrator CorePack - Original Microsof...
Selling price: 60.00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Dashboard
Products
Request
Search
trxp - Website
logout
Dashboard
Sales
4 Sold products
11 Products for sale
Activities:
Enter new product
Product overview
Show sold products
Rental
0 Products lent
3 Products for rental
Activities:
Enter new product
Product overview
Rental requests - Feature List!
Show lent products
Manage lenders
Inventory
1 Products in inventory
Activities:
Enter new product
Product overview
Enquiry
There is 0 New enquiries on RXP
Activities:
Show all enquiries
Request
You have 1 Posted requests.
Activities:
Show my requests
Show offers to my request
Create request
My data
UP Umweltanalytische Produkte GmbH
Taubenstrasse 4
03046 Cottbus
0355/485540
Aktionen:
My data
Export data
Account-Delete
Impressum | Data privacy statement | AGB
© Copyright: Text and images UP Umweltanalytische Produkte GmbH

Optional data

Lender:

Please select...

Manual:

dl2_qsg_uk.pdf

Specification/Datasheet:

02100.pdf

Product images:

- 1359578801-02100.jpg

Upload product images

Conditions of sale and rent

Minimum rental period 2 weeks, all prices are net, VAT not included

Transportbedingungen

Shipment by parcel-service

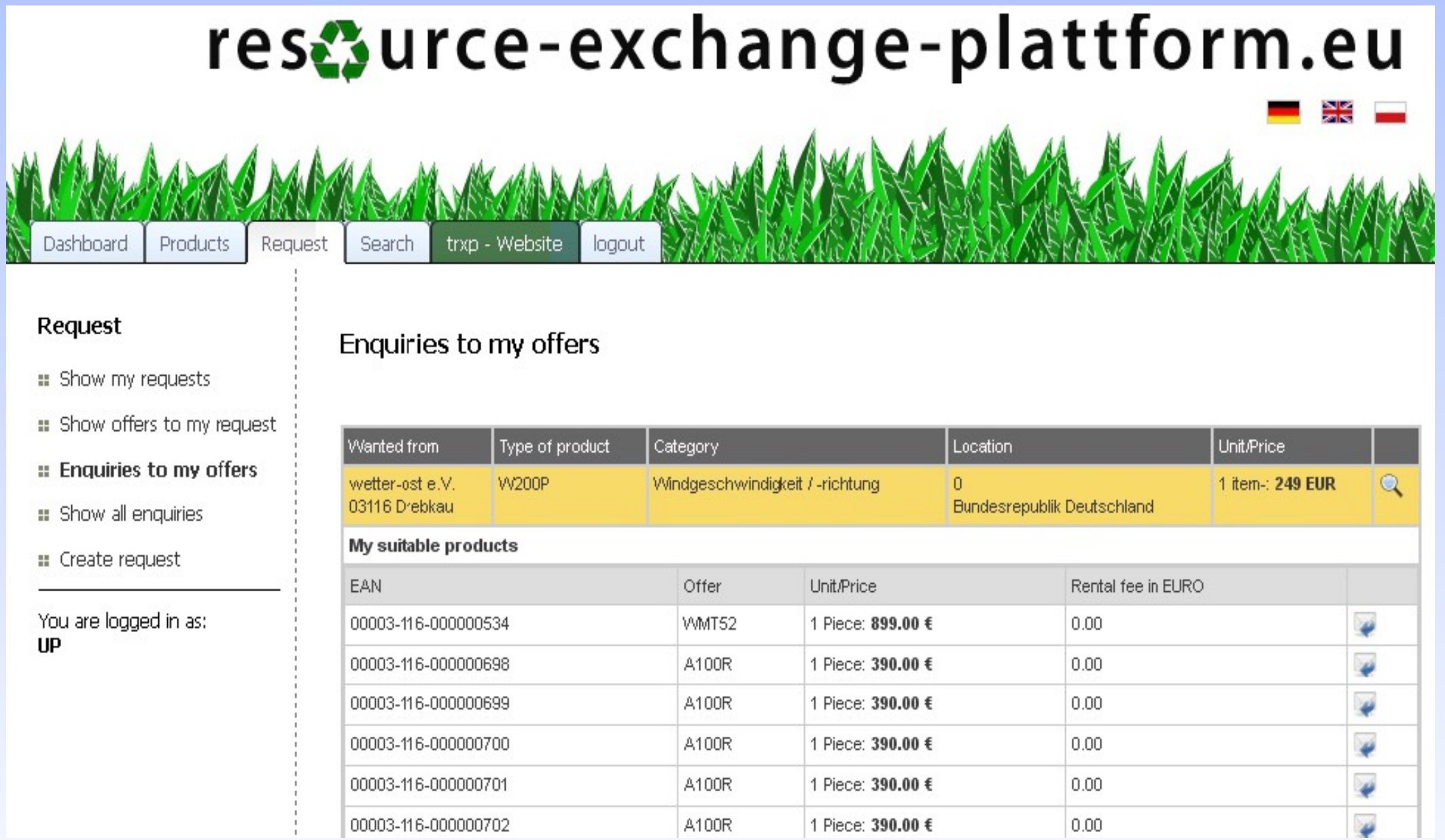
Device sold: Yes No

- administration of instruments for rent

Products rental

Show all products of my group

ID		Type	Rental fee	Category						
72		DL2e	150.00 € / Monthly	Datenlogger						
627		Wetterstation WS-GP1	300.00 € / Monthly	Wetterstationen (komplett)						
636		Airpyknometer	250.00 € / Monthly	Sonstiges						


resource-exchange-plattform.eu
Dashboard
Products
Request
Search
trxp - Website
logout
Request
Show my requests
Show offers to my request
Enquiries to my offers
Show all enquiries
Create request
You are logged in as:
UP
Enquiries to my offers
Wanted from
Type of product
Category
Location
Unit/Price
wetter-ost e.V.
03116 Drebkau
W200P
Windgeschwindigkeit / -richtung
0
Bundesrepublik Deutschland
1 item-: 249 EUR
My suitable products
EAN
Offer
Unit/Price
Rental fee in EURO
00003-116-000000534
WMT52
1 Piece: 899.00 €
0.00
00003-116-000000698
A100R
1 Piece: 390.00 €
0.00
00003-116-000000699
A100R
1 Piece: 390.00 €
0.00
00003-116-000000700
A100R
1 Piece: 390.00 €
0.00
00003-116-000000701
A100R
1 Piece: 390.00 €
0.00
00003-116-000000702
A100R
1 Piece: 390.00 €
0.00

Summary RXP (USPs)

- For Sale/ for Rent/ *for Inventory*
- 7 main categories/ 92 sub-categories for *product re-use*
- 7 main categories/ 64 sub-categories for *recycling materials*
- *deals with different user-groups*
- *calculates Water-, Ghg- and Waste-savings*
- *Enter EWC- and ISRI-numbers*
- *Ebay-Powerseller-export*

Used Datahog2
weather sensor

Used desktop PCs

RXP

ressource exchange platform - source stream

90 wood for urban gardening projects
(waste wood, pallets)

80 pcs. electronic devices for schools
(sensing elements, PCs, data logger)

124 pcs. print media for NGOs
(printing blankets, paint pots, cardboard rolls)

"The Resource-eXange-Platform (TRXP.eu)!

devices gathering dust in the cabinet? Is your basement filled with unused office
ing for a regional recycling facility for your packaging waste?

roblems and many more. It enables products and materials to enter utilisation circuits,
aste charges and conserves resources. You might even be able to make money out of
the RXP opens opportunities to purchase inexpensive Second Hand products.
pany, a private person or public-law institution, the RXP is suitable for everybody.

Waste reduction

CO_2 **14525 kg**

H_2O **67025 Liter**

1631.2 kg

Calulations at the moment:

Watersavings for an electronic-device like Datalogger/PC/Laptop: approx. 766 l compared to new production, as different kinds of appliances are to be entered we calculate with 70% of this savings!

Saved GHG emission: approx. 166kg per Datalogger/PC/Laptop, in average 70% of this value/unit.

Take-Back scheme

- ICT and EEE (electronic-, electric-equipment) → store-rooms
- 1.7 Mio Euro buying value of EEE → WEEE /a
- 30-25% refund for high-quality ICT after 3-4 yrs
- uncertainty how to deal with appliances no longer used

→ *trxp-inventory option as solution*

Table 3-7: Take-back potentials – Annual allocation and disposition of e-waste at University BTU Cottbus from 2004 – 2011[26].

Year	Total	E-Waste	Vebeg/ReUse	Others	Purchase price
2004	109	94	9	6	368,000.00
2005	600	582	14	4	1,240,000.00
2006	686	621	65	0	2,329,000.00
2007	1264	1091	109	64	1,946,000.00
2008	887	855	16	16	2,333,000.00
2009	740	700	19	21	2,032,000.00
2010	1604	1594	0	10	2,293,000.00
2011	1045	1024	0	21	1,601,000.00
Total	**6935**	**6561**	**232**	**142**	**14,142,000.00**

Take-Back scheme

- Inventory walks → high potential for refunds
- >50% disposed appliances still working or repairable, but morally obsolete

Business-opportunities ↔ Administrative burdens

Description	Nikon Coolpix 995 mit Zubehör	OHP-Projektor Famulus Comfort mobil 400	Planeten Schnell-mühle PM 400 (ball mill)	Mikrokalori-meter TAM 2277	Gefrier-punktos-mometer 030
Bought for	1.313,69€	842,61€	7.273,13€	78.761,96€	3.982,45 €
Possible Sales price	85€ bis 159€	90 €	3.260 €	??	1.180 € bis 1.450 €

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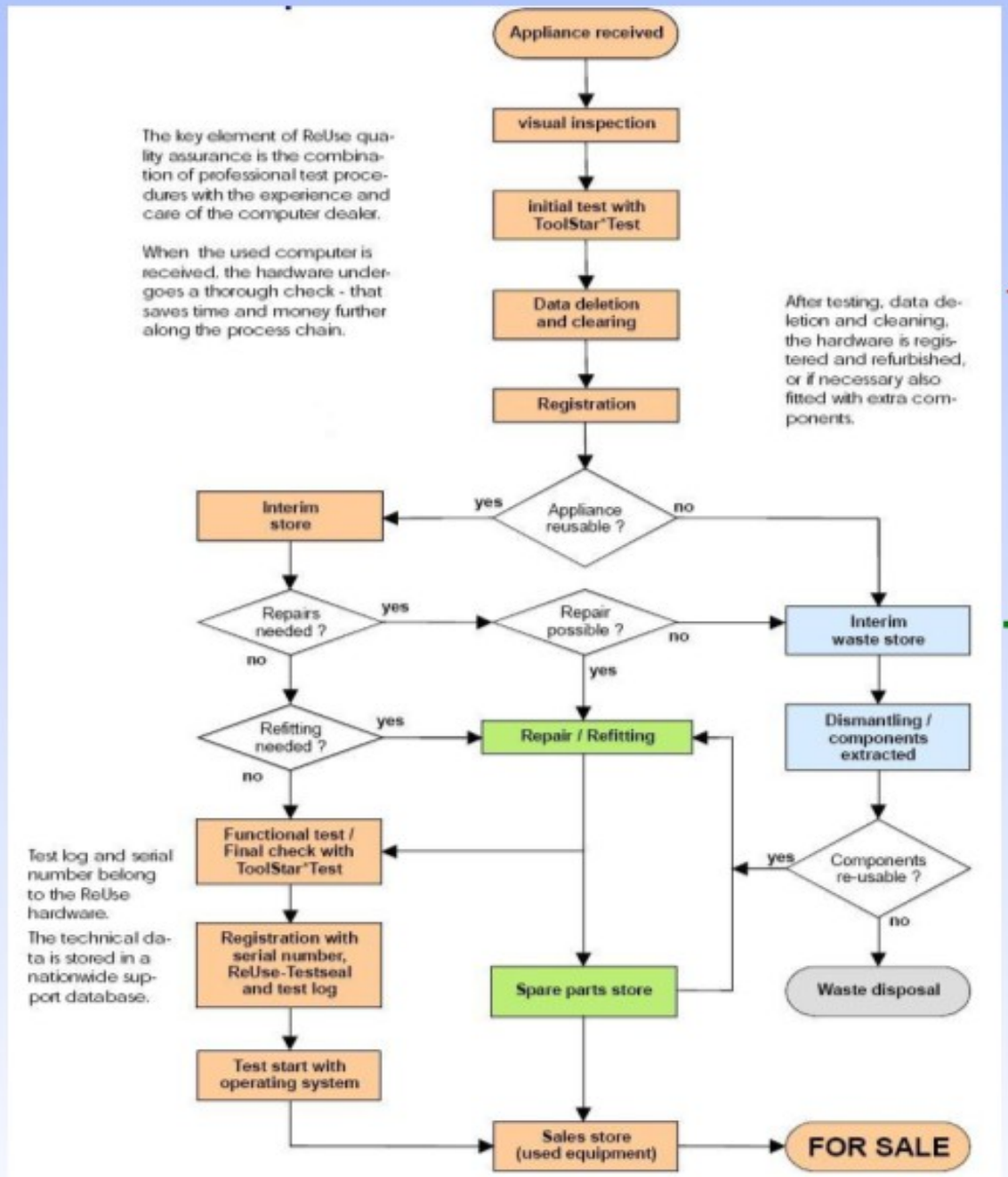

German Association of Engineers (VDI):

Technical guideline VDI 2343/ReUse

00003-002-000000072

Prüfsiegel ReUse Computer

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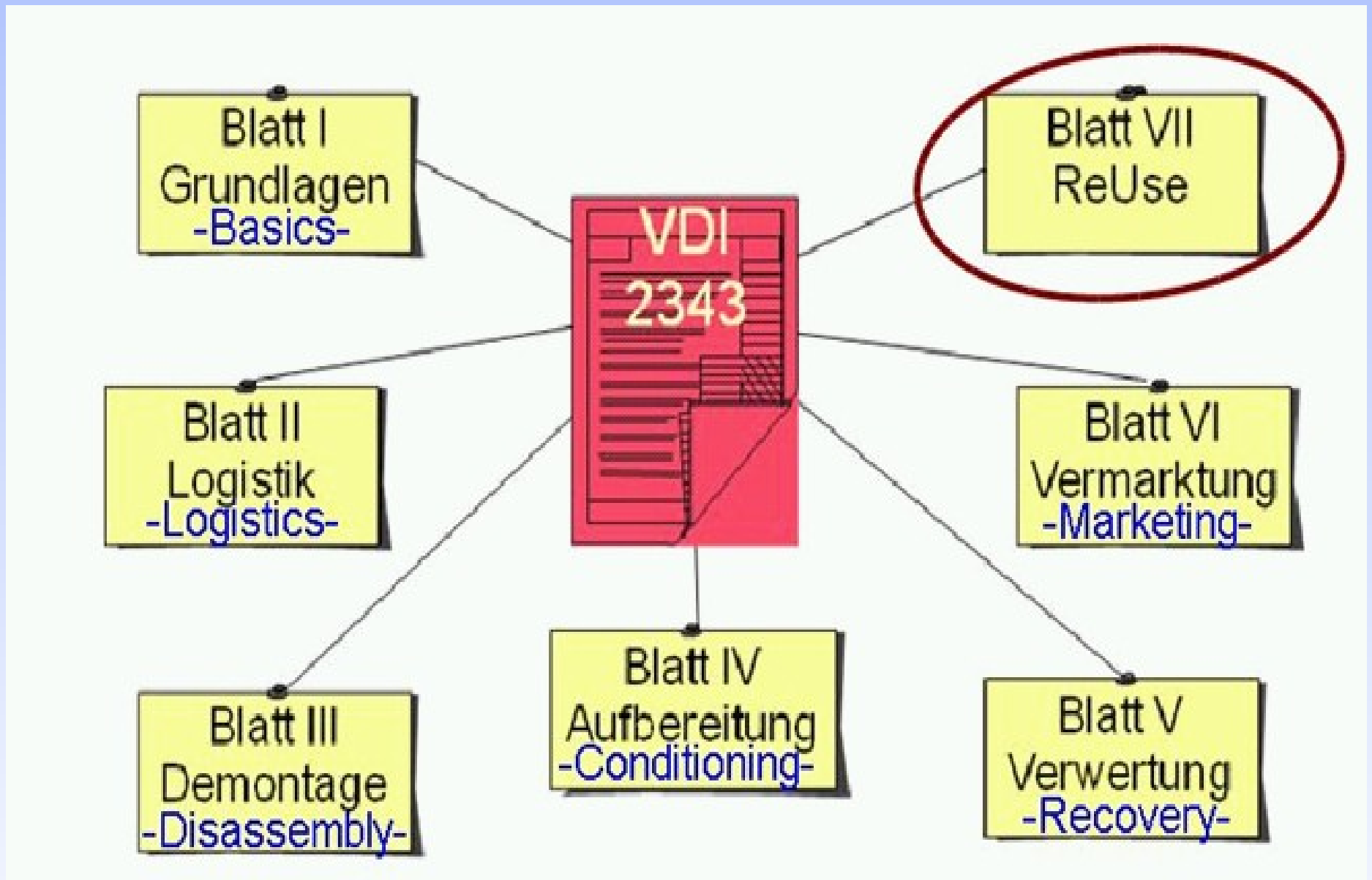

Blatt I
Grundlagen
-Basics-
Blatt VII
ReUse
VDI
2343
Blatt II
Logistik
-Logistics-
Blatt VI
Vermarktung
-Marketing-
Blatt III
Demontage
-Disassembly-
Blatt IV
Aufbereitung
-Conditioning-
Blatt V
Verwertung
-Recovery-

3. Reduction of solid waste/GHG emissions/waste water

PC/Laptop: 4 years → 8 years Measurement equipment: 10 years → 20 years
(Exchange of parts or upgrade included)

Measure/Goal	Desktop Computer (4 years)			Laptop (4 years)		Data Logger (10 years)
	Reuse	Reuse with exchange	Reuse with upgrade	Reuse	Reuse with exchange	Reuse
Decrease of 30% greenhouse gas emissions	66% decrease	46% decrease	46% decrease	65% decrease	69% decrease	50% decrease
Reduction of 75% of fresh water utilisation	64% decrease	43%decrease	41% decrease	66% decrease	66% decrease	50% decrease
70% of overall re-use and recycling of waste	100%	87%	87%	100%	91%	100%

ZeroWIN Work Package 7 – Final Assessment, BOKU (2013)

→ Re-use of ICT appliances makes environmentally, but also economically and socially sense!

4. Conclusions

→ ***RXP enables resource exchange/business opportunity***

→ ***Service/contact person is crucial***

→ ***Adapted business schemes:***

1. **Interlink wholesalers+SME+micro-enterprises**
2. **Interlink product and services: new+used+service**
3. **Employment promotion**

Barriers to re-use businesses:

→ Low economic incentive

(wholesaler + / SME-)

→ difficult Procurement practices

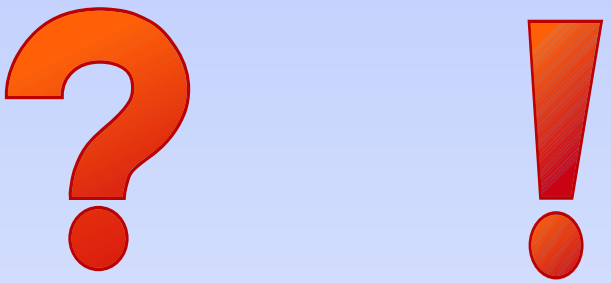
(buy/sell)

→ Competition „more for less“ ↔ „ReUse“

→ ReUse Logo – marketing instrument or "shame re-use"?

Thank you for listening -

we like to answer your questions!



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