

PROCESS THO

ZEITMANAGEMENT



app

The PROCESS Suite tools

The PROCESS Suite was developed by experienced industrial engineer specialists with regard to high practicality. Method- and function-know-how gained through many years of consulting experience are one-to-one processed into these software applications which are making work much easier. Not least through daily work with conventional resources, the thought of developing tools which achieve today's standard of rudiments arises.

All PROCESS - applications are common in:

- focus on the central application areas in industrial engineering
- implementation of field-tested methods with measurable efficiency gain for the user
- user-friendly interfaces and visualisation of data at every meaningful point
- constructed on cost-efficient industry standards, proprietary hardware- and software-solutions

The PROCESS TM team wishes good luck at work!





PROCESS TM app

The **PROCESS TM app** was specially developed for usage with iOS based products. Especial attention was focussed on the optimization for the Apple iPad. Usage on the Apple iPhone is still possible.

Time studies are efficiently relised and documented through the innovative and reliable workflow of the **PROCESS TM app**. It is a digital stop watch with integrated analysis functions and automatic time study- and documentation-upload into the connected Web-application **PROCESS TM web**¹, which is accessible at live.process-tm.com.

Advantages of the PROCESS TM app

- intuitive operation
- ready-to-go without former process-analysis
- direct text-input during time-study
- text voice-input through SIRI²
- available on all iOS devices (iPad, iPhone, iPod Touch)
- image-capture during time-study
- automatic upload into **PROCESS TM web**²
- image upload into **PROCESS TM web**²
- first analysis and evaluation on the mobile device

¹ Registration at www.process-suite.com or www.luz-consulteam.de

² Internet connection needed



Login

Process ID (E-Mail Adresse)

Passwort

OK

[Passwort vergessen?](#)

[Jetzt registrieren](#)

Sign-in

Login

At first start of the **PROCESS TM app** or after the logout, the login-mask is shown. The login data, consisting of the **PROCESS ID** and the related password, are identical to the **PROCESS TM web** login data.

Login
<input type="text" value="Process ID (E-Mail Adresse)"/>
<input type="password" value="Passwort"/>
OK

Need Password?

By entering the **PROCESS ID** (E-Mail-address) the related password will be send to the user.

Abfrage Passwort
<input type="text" value="Process ID (E-Mail Adresse)"/>
Passwort senden
Abbrechen

Register now!

User without a **PROCESS ID** can register themselves. The registration is initially valid for a free 30 day trial-access. During this period all function of the **PROCESS TM web** are also available and can be tested without limitations.

Registrierung
<input type="text" value="Process ID (E-Mail Adresse)"/>
<input type="text" value="Neues Passwort"/>
<input data-cs="2" data-kind="parent" type="text" value="Passwort erneut..."/>
<input type="text" value="Vorname"/>
<input type="text" value="Nachname"/>
PID erstellen
Abbrechen



Main menu



My account

This menu shows the currently logged in user. This menu point will redirect to the account settings „My account“.



Company

This menu shows the current company, under which the time-studies will be saved. This menu you will redirect to the account settings „My account“.



New time study

Through this menu point new time studies can be created and executed. A overview of existing time studies will be shown to prevent binominals.



Timestudy explorer

Through this menu point new time studies can be created and executed. A overview of existing time studies will be shown to prevent binominals.



Catalog sequence description

Catalogues for operating sequences and time studies can be created and later transfered into time studies.



Parameter and settings

User- and company-specific parameter settings like assumed allowance time and required epsilon. System and application settings.



PROCESS TM web

Opens up the Web-application **PROCESS TM web**.



Help

Opens up the help section of the application.



Info

Producer information, data privacy and liability noe.



Log out

Logs out the current user and opens up the login-mask.





Process ID

Unternehmen

Kraftverkehr Nagel GmbH & Co. KG
Kraftverkehr Nagel GmbH & Co. KG 2
KÜHNE & NAGEL (AG & Co.) KG

LCT GmbH

LCT-Test

Lehmann & Voss & Co. KG

L&V Karschhoff GmbH & Co. KG

Passwort ändern

Persönliche Daten

Server Connection (IP Adresse)

Connection zurücksetzen

Produkt Lizenz

Geräte ID

My account

Process ID

Information about the currently logged in user.

Change password

Changing the password for the currently logged in user.

Personal data

User information and contact data.

Company

Selection of user assigned companies. Controls the time study upload in case of multi-users.

Server connection (IP address)

The IP address of the inhouse-solution can be added/changed at this point.

Product licence

Information on the validity of the **PROCESS ID**.

Device ID

Device information for licence control.



Parameter - Version 1.001

Zeitaufnahme Statistik Parameter

Aussagewahrscheinlichkeit
(1-alpha)

0.0 %
8.0 %
9.0 %
95 %
97.5 %
99 %
100.0 %

Epsilon erforderlich

1.0 %
2 %
2.5 %
3 %
3.5 %
4 %
4.5 %

Zeitaufnahme Steuerelemente

Rückwirkende
Leistungsgrade

Filter Katalog



Epsilon anzeigen



Schlafmodus Display



Email / Upload



Automatischer Upload



Zeitaufnahme Zugschlagsätze

Zer

0.0 %
0.5 %
1.0 %
1.5 %

Zvsk

0.0 %
1.0 %
1.5 %
2.0 %
2.5 %
3.0 %

Zvsv

0.0 %
1.0 %
1.5 %
2.0 %
2.5 %
3.0 %

Zvp

3.0 %
4.0 %
4.5 %
5.0 %
5.5 %
6.0 %

Zsonst

0.0 %
0.5 %
1.0 %
1.5 %

Parameter

Statistic parameter

Setting of the confidence coefficient and required epsilon for the correct calculation of statistic-parameters during the time study and evaluation.

Controls

Back-referenced performance degrees

Applying the entered performance degree onto back-referenced, not rated operation sequences.

Filter catalogue

Catalogues are shown unrelated to the client. By activating this option only client related catalogues will be shown.

Show epsilon

Activating and deactivating the epsilon-notification during the time study.

Display sleep-mode

Activating and deactivating the Display sleep-mode while no input is made during the time study.

Email / upload

Transfer selection of closed time studies. By activating the Email option the protocol has to be manually uploaded in **PROCESS TM web**.

Automativ upload

By activating this option, time studies will be automatically uploaded in **PROCESS TM web** after closing and will be available for further evaluation.

Surcharges

Defining surcharges which will be included in the evaluation process in the **PROCESS TM app**. Surcharges can still be individually changed during the evaluation.

Zer

Relaxation time

Zvsk

Factual constant allowance time

Zvsv

Factual variable allowance time

Zvp

Personal allowance time

Zsonst

Miscellaneous surcharges



Netzbetreiber

11:57

100 %

Neue Zeitaufnahme

Suchen

Nr.

Zeitaufnahme Code

Arbeitsaufgabe

1

ZATEST001

Paletten entladen

Zeitaufnahme

Arbeitsaufgabe

Datum

QWERTZUIOPÜ

ASDFGHJKLÖÄ

Return

YXCVBNM!?

B

↑

.?123

globe

.?123

message

New time study

Inside the dialogue New time study, up to five time studies can be created and started parallelized for multi-site-observations. Entering of the time study code and work task are automatically done by uploading into [PROCESS TM web](#).

The lower part of the dialogue shows closed time studies which were recorded with this device. This time study overview serves as information for already used time study codes.

Creating new time studies::

- 1) Entering the *time study code*
- 2) Entering the *work task*
- 3) Click on Start *time study*

Notice:

The trial-version allows the saving of up to 5 time studies on the device. For further time studies a licence is needed.

Netzbetreiber
11:57
100 %

Zeitaufnahme 1 - ZATEST001 30.03.2014 11:57:21

Netzbetreiber
11:58
100 %

Zeitaufnahme 1 - ZATEST001 30.03.2014 11:58:25

AA-Nr.

1

AA Bezeichnung
Tor öffnen und Rampe anlegen
Statistik 1 - alpha = 95 % eps' = 3 %
n = 2 n' = 34907 eps = 396.3 %
Bezugsmenge 1 = Bezugsmenge 2 =

Protokoll
Start.
11:57
30.03.2014
Version 1.000
LG 110
AA 001 00061
LG 110
AA 001 00032

Gesamtzeit
001.00
Letzte Zeit
000.32
Laufende Zeit
000.07

1
 2

1 2 3
4 5 6
7 8 9
0 , x
80
85
90
95 ?
100
105
110 F
115 N
120 Er
125 Vsv
130 Vsk
135 Vp
140 X

Ablaufabschnitte
1 Tor öffnen und Rampe anlegen
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17

1
 2
 3
 4
 5

20

Time study control keys



Start

Starts the timer. The button will change into Stop.




Stop

Stops the timer and closes the time study/studies.

1

Reference quantities

For each cycle two different reference quantities can be entered, The desired reference quantity (e.g. ) has to be activated and the quantity has to be entered through the numbers.

x

By pressing **x** the activated reference quantity can be deleted.

100

Performance degree

80% to 140%

Select the appropriate performance degree during the current cycle. The performance degree will be saved related to the next confirmed operating sequence cycle.



SP Split

Extends an interrupted cycle. The times of the merged cycles will be added and shown as one cycle.

1 C 2

UB Rename

Renaming the last confirmed operating sequence.



Notes

Adding notes during the time study.



Mark

Adding a mark in the time study protocol.



Photo

Capturing a image during the time study. The images will be transfered on the server and can be viewed on the 1.page.



Top

Jumping to the first position in the operating sequence list.



Down

Jumping down 10 operating sequences in the operatin sequence list.



Up

Jumping up 10 operating sequences in the operatin sequence list.



Serial process sequence

Confirming the same operating sequence as the previous operating sequence (e.g. 2-2-2-2-...)



Cyclical process sequence

Confirming the next (ongoing) operating sequence based on the previous operating sequence (e.g. 1-2-3-4-...)



Addendum

Extending the last confirmed operating sequence (no additional cycle).

Non-productive time

These times are set onto operating sequence numbers. It is possible to record up to 10 different non-productive times.



Case-by-case

Jumping to the numbers 400 to 409



Non-applying time

Jumping to the numbers 410 to 419



Relaxation time

Jumping to the numbers 420 to 429



Allowance time factual variable

Jumping to the numbers 430 to 439



Allowance time factual constant

Jumping to the numbers 440 to 449



Allowance time personal

Jumping to the numbers 450 to 459

Telekom.de

10:28

85 %

Zeitaufnahme 1 - PROCESS TM 06.05.2014 10:28:53

AA-Nr.

2

AA Bezeichnung

Palette entladen

110 %

Protokoll

LG 115
 AA 002 00035
 LG 120
 AA 002 00037
 LG 110
 AA 002 00036
 LG 105
 AA 002 00037
 LG 110

Gesamtzeit

004.00

Letzte Zeit

000.37

Laufende Zeit

000.73

Statistik

1 - alpha = 95 %

eps' = 3 %

n = 6

n' = 6

eps = 3.0 %

Bezugsmenge 1 =

Bezugsmenge 2 =

1

2

1

2

1

2

3

4

5

6

7

8

9

0

,

x

80

↺

≡

85

1 ↺ 2

≡ ↓

90

☐

≡ ↑

95

?

⌚ →

100

📷

⌚ ↓

105

⌚ ≡

⌚ +

110

F

115

N

120

Er

125

Vsv

130

Vsk

135

Vp

140

X

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

Ablaufabschnitte

Tor öffnen und Rampe anlegen
 Palette entladen
 Label aus Lagerbüro holen
 Labeln der Paletten
 Rampe abnehmen und Tor schließen
 Gabelhubwagen von Abstellplatz holen
 Palette ins Lager fahren und einlagern
 Gabelhubwagen abstellen
 Warten auf neuen Wareneingang/Auflieger

1

2

3

4

5

24



Non-allowable time

Jumping to the numbers 490 to 499



1-399 Operating sequences

The operating sequences are stopped/confirmed through this buttons. All related entries (performance degree, reference quantities, split) have to be entered before.



By double-clicking slightly right to the number the settings per operating sequence will be opened.



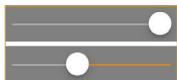
Clocks 1-5

Selecting between the up to five parallelized time studies.



Single times

Opens up the overview containing the single times, performance degree and reference quantities of the confirmed cycles.



Protection shield

Protects the operating sequence area against accidental table movement through hand placement.

Telekom.de

10:28

85 %

Zeitaufnahme 1 - PROCESS TM 06.05.2014 10:28:30

AA-Nr.

2

AA Bezeichnung

Palette entladen

110 %

Protokoll

LG 115
 AA 002 00035
 LG 120
 AA 002 00037
 LG 110
 AA 002 00036
 LG 105
 AA 002 00037
 LG 110

Gesamtzeit

003.61

Letzte Zeit

000.37

Laufende Zeit

000.34

Statistik

1 - alpha = 95 %

eps' = 3 %

n = 6

n' = 6

eps = 3.0 %

Bezugsmenge 1 =

Bezugsmenge 2 =

1

2

1

2

1

2

3

4

5

6

7

8

9

0

,

x

80

85

90

95

100

105

110

115

120

125

130

135

140

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

F

N

Er

Vsv

Vsk

Vp

X

Ablaufabschnitte

1

2

3

4

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17

Tor öffnen und Rampe anlegen

Palette entladen

Label aus Lagerbüro holen

Labeln der Paletten

Rampe abnehmen und Tor schließen

Gabelhubwagen von Abstellplatz holen

Palette ins Lager fahren und einlagern

Gabelhubwagen abstellen

Warten auf neuen Wareneingang/Auflieger

1

2

3

4

5

Time study information section

OS-Nr.

Number of the last confirmed operating sequence.

OS-description

Description of the last confirmed operating sequence. Operating sequence descriptions can be added by clicking inside the field.

Statistic

Statistic evaluation of the last confirmed operating sequence.

n	up to now confirmed cycles of this operating sequence
n'	requested amount of cycles
eps	up to now reached epsilon
eps'	desired relative epsilon
1-alpha	desired confidence coefficient

Reference quantity 1 and reference quantity 2

Shows the reference quantity of the current operating sequence.

Protocol

The protocol shows the last entries which were saved in the origin protocol.

Time overview

Information about the current time dimensions of the time study and current cycles.

total time

recording time from the start

last time

time of the last confirmed cycle

current time

time of the current cycle



Netzbetreiber

11:58

100 %

Zeitaufnahme 1 - ZATEST001 30.03.2014 11:58:50

<div>AA-Nr.</div> <div>1</div>	<div>AA Bezeichnung</div> <div>Tor öffnen und Rampe anlegen</div> <div> <div>Statistik</div> <div>1 - alpha = 95 %</div> <div>eps' = 3 %</div> </div> <div> <div>n = 2</div> <div>n' = 34907</div> <div>eps = 396.3 %</div> </div> <div> <div>Bezugsmenge 1 =</div> <div>Bezugsmenge 2 =</div> </div>	<div>Protokoll</div> <div> <div>Start</div> <div>11:57</div> <div>30.03.2014</div> <div>Version 1.000</div> <div>LG 110</div> <div>AA 001 00061</div> <div>LG 110</div> <div>AA 001 00032</div> </div>	<div>Gesamtzeit</div> <div>001.40</div> <div>Letzte Zeit</div> <div>000.32</div> <div>Laufende Zeit</div> <div>000.47</div>
--------------------------------	---	--	---

1

2

1

2

3

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x

80

85

90

95

100

105

110

115

120

125

130

135

140

8

9

10

11

12

13

14

15

16

17

Ablaufabschnitte

1

Tor Öffnen und Rampe anlegen

2

Auswahl Zeitaufnahme

Keine Zeitaufnahme

7 OK

Abbrechen

1

2

3

4

5

Copying operating sequences

It is possible to copy the operating sequences of whole time studies. By clicking the row operating sequences a selection will be opened which allows the user to select the desired time study.



Netzbetreiber

11:59

100 %

Ablaufabschnitt-Nr. 1

Ablaufabschnitt Bezeichnung

Tor öffnen und Rampe anlegen

AA-Nr.

1

Beschreibung Messpunkt

Ankunft Stapler

Zeitart

tMH

tMN

tMZ

tM

Farbe

Clear

Black

Blue

Kamera

Katalog

Import

Export

Summe ti (tM)	93
Anzahl Beobachtungen	2
Epsilon	396.33 %
Anzahl erforderlicher Beobachtungen	34907
Epsilon' erforderlich	3.00 %
Mittlerer Leistungsgrad	110 %
Bezugsmenge 1	0
Bezugsmenge 2	0

Operating sequences

Single operating sequences can be individually named and differentiated for the evaluation. By double-clicking the

operating sequence a corresponding site will be opened. The operating sequence description, measurement points and time types can be entered during or even before the beginning of the time study. These entries will be saved into the time study protocol and transferred into **PROCESS TM web** during the upload.



AA-Nr.



Operating sequence selection

By scrolling the wheel, operating sequences can be directly selected without going back to the time study view.

Color

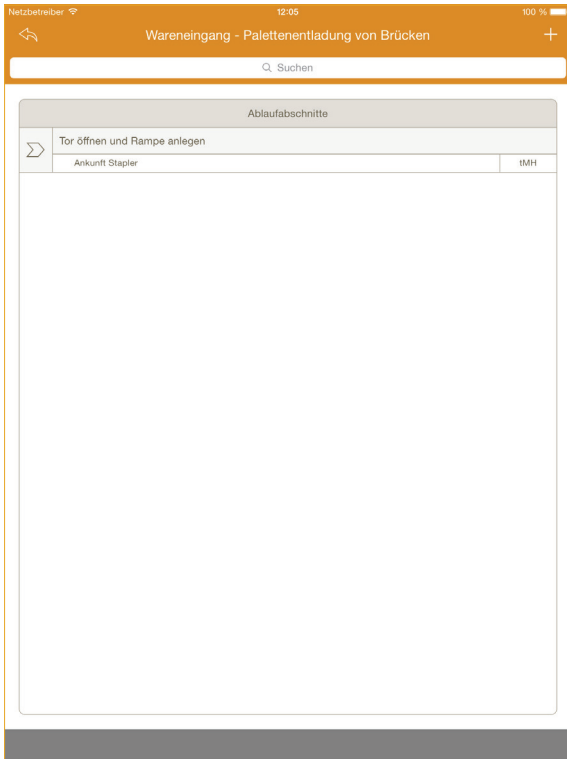
Operating sequences can be assigned to 12 different colors with which they will be shown inside the time study.

Camera - photo

It is possible to capture images per operating sequence even during a time study. The time study images can be automatically transferred into **PROCESS TM web**.

Catalogue - import/-export

Operating sequences can be saved into catalogues. From these catalogues they can be imported into other time studies.



Catalogue text modules

PROCESS TM app provides the opportunity of saving operating sequences into catalogues. These saved descriptions, including measurement points and time type, can be accessed in other time studies and thereby ensure matching designations of operating sequences and the selection of the right measurement point.

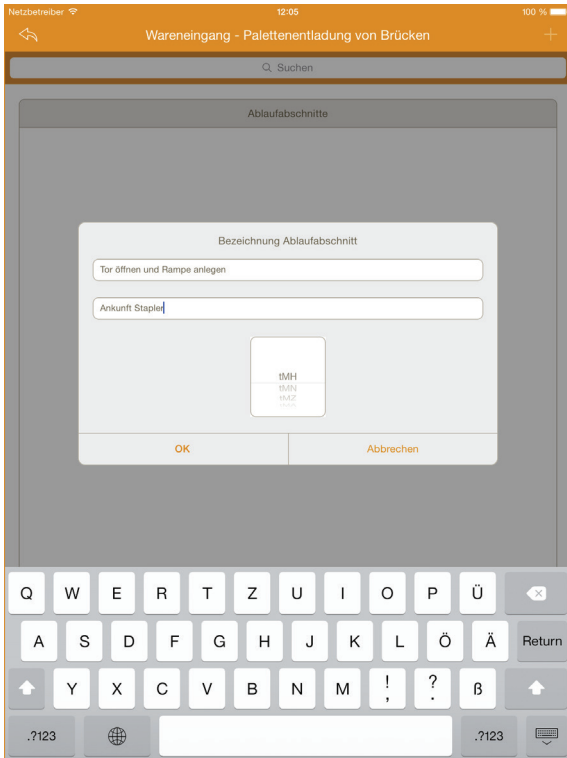
There are two subordinated levels inside the catalogue to which the operating sequences can be assigned:



Catalogue-import

Operating sequences can be transferred into other time studies from defined catalogues. Through the two selection lists it is possible to select the area and the categories inside the catalogue. Depending on the selection appropriate operating sequences will be listed. By clicking the desired operating sequence description it will be imported. The import also transfers the measurement point description and the time type.





Catalogue-export

Operating sequences can be saved from time studies into catalogues and from these transferred into other time studies. Through the two selection lists it is possible to select the area and the categories inside the catalogue. Afterwards the desired operating sequence will be saved.

Export





Ablaufabschnitt-Nr. 1

Arbeitssystem



Arbeitssystem Beschreibung



Photograph

During an ongoing time study general photos and photos per section can be deposited through the built-in camera of the iOS device or can be imported from the photo albums. The photos which are deposited in the time study will be transferred automatically with the upload to **PROCESS TM web** and can be seen in the 1.Page.



Photograph

Opens the camera to take a photo



Photo album

Opens the photo album to select photos



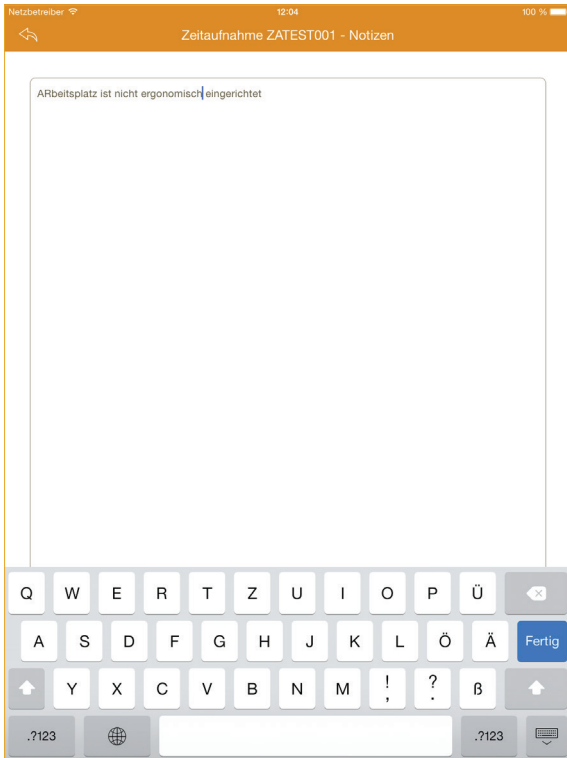
Save

Save the changes



Delete

Delete the currently selected photos



Notes

Notes can be stored during an ongoing time study. The notes can be opened from the time study dialogue or from the operation sequenz dialogue.

In the current version the notes can not be tranfered or exportet to **PROCESS TM web**.





Einzelzeiten - PROCESS TM

AA-Nr.	Block	Zykl.1	Zykl.2	Zykl.3	Zykl.4	Zykl.5	Zykl.6	Zykl.7	Zykl.8	Zykl.9	Zykl.10
1	0	Tor öffnen und Rampe anlegen									
	BM 1										
	BM 2										
	LG %	115									
	ti HM	56									
2	0	Palette entladen									
	BM 1										
	BM 2										
	LG %	115	110	115	120	110	105				
	ti HM	36	38	35	37	36	37				
3	0	Label aus Lagerbüro holen									
	BM 1										
	BM 2										
	LG %	110									
	ti HM	96									
4	0	Labeln der Paletten									
	BM 1										
	BM 2										
	LG %	110	115	110	115	115	110				
	ti HM	21	20	23	20	22	23				
5	0	Rampe abnehmen und Tor schließen									
	BM 1										
	BM 2										
	LG %	115									
	ti HM	58									
6	0	Gabelhubwagen von Abstellplatz holen									
	BM 1										
	BM 2										
	LG %	120									
	ti HM	115									
7	0	Palette ins Lager fahren und einlagern									
	BM 1										
	BM 2										
	LG %	105	105	110	110	115	110				
	ti HM	63	61	67	62	59	67				
8	0	Gabelhubwagen abstellen									
	BM 1										
	BM 2										
	LG %	115									
	ti HM	94									
9	0	Warten auf neuen Wareneingang/Auflieger									
	BM 1										
	BM 2										
	LG %	115									
	ti HM	118									
	0	Nicht anrechenbare Zeiten (z.B. Gespräch mit Arbeitszeitstudienmann)									



Display single times

The already stopped single times per operation sequenz and cycle are listed. In addition to the respective performance degree and specified quantities of each cycle are listed. The dialogue of single times serves as a source of information, a quick overview of the halted cycles can be obtained.








Nr.	Ablaufabschnitt und Messpunkt	Benutzmenge	Zyklus	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	$\frac{\sum U/n}{\sum t/n}$	$\frac{\sum T}{t_1}$	$t = \frac{\sum T}{100 \cdot \frac{\sum U/n}{\sum t/n}}$	Benutzer			
				$\frac{U}{n}$	$\frac{t}{n}$	$\frac{U}{n}$	$\frac{t}{n}$	$\frac{U}{n}$	$\frac{t}{n}$	$\frac{U}{n}$	$\frac{t}{n}$	$\frac{U}{n}$	$\frac{t}{n}$	$\frac{U}{n}$	$\frac{t}{n}$	$\frac{U}{n}$	$\frac{t}{n}$	$\frac{U}{n}$	$\frac{t}{n}$	$\frac{U}{n}$	$\frac{t}{n}$	$\frac{U}{n}$	$\frac{t}{n}$	$\frac{U}{n}$	$\frac{t}{n}$	$\frac{U}{n}$	$\frac{t}{n}$	$\frac{U}{n}$	$\frac{t}{n}$	$\frac{U}{n}$		$\frac{t}{n}$		
1	Tor öffnen und Rampe anlegen	6	L	115						110						110						110						445/4	111,3	10,6	HVS			
	Tor öffnen und Rampe anlegen		t	56						58						55						59						228/24	9,5					
	Tor schließen		F	108						1178						2799						4177												
2	Paletten entladen	1	L	115	110	115	110	110	110	115	120	110	105	110	110	105	110	110	115	110	115	110	115	110	115	110	115	120	2695/24	112,3	40,7	HVS		
	Paletten entladen		t	36	38	35	37	36	37	35	39	37	33	36	35	34	41	36	38	35	35	34	37	40	34	37	34	869/24	36,2					
	Paletten abstellen		F	144	182	217	254	290	327	1413	1452	1489	1522	1558	1593	2833	2874	2910	2948	2983	3018	4289	4326	4368	4400	4437	4471							
3	Label aus Lagerbüro holen	6	L	110						115						115						110						450/4	112,5	18,6	HVS			
	Label aus Lagerbüro holen		t	96						102						99						100						397/24	16,5					
	Ankunft Paletten		F	423						1055						3117						4571												
4	Labeln der Paletten	1	L	110	115	110	115	115	110	115	120	110	110	110	110	115	110	110	115	110	115	110	115	110	115	110	115	2695/24	112,3	24,2	HVS			
	Labeln der Paletten		t	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	518/24	21,6					
	Labeln der Paletten		F	444	464	487	509	529	552	1857	1888	1907	1927	1949	1973	3139	3160	3182	3202	3225	3249	4594	4615	4636	4655	4675	4702							
5	Rampe abfahren und Tor schließen	6	L	115						105						110						115						445/4	111,3	11,3	HVS			
	Rampe abfahren und Tor schließen		t	978						63						59						64						244/24	10,2					
	Tor schließen		F	610						2036						1308						4766												
6	Gabelhubwagen vom Abstellplatz holen	6	L	110						110						110						110						450/4	112,5	20,8	HVS			
	Gabelhubwagen vom Abstellplatz holen		t	111						109						112						110						444/24	18,5					
	Ankunft Paletten		F	723						2145						3517						4876												
7	Paletten ins Lager fahren und entladen	1	L	110	110	110	110	110	110	115	110	115	115	115	110	115	110	115	110	115	110	115	110	115	110	115	110	2690/24	112,1	69,9	HVS			
	Paletten ins Lager fahren und entladen		t	61	60	68	62	59	65	62	64	62	61	64	58	61	63	69	63	58	63	61	62	65	62	65	57	1497/24	62,4					
	Ankunft Paletten		F	786	846	914	978	1035	1100	2207	2271	2333	2394	2456	2518	3578	3641	3700	3773	3831	3894	4937	4999	5064	5126	5191	5248							
8	Gabelhubwagen abstellen	6	L	115						115						105						115						450/4	112,5	17,4	HVS			
	Gabelhubwagen abstellen		t	94						91						87						88						371/24	15,5					
	abstellen		F	1134						2607						1991						5137												
9	Warten auf neuen Wareneingang/Auflieger	6	L	115						110						110						110						455/4	113,8	25,1	HVS			
	Warten auf neuen Wareneingang/Auflieger		t	126						127						127						140						530/24	22,1					
	ausgehen		F	1320						2744						4118						5477												
																																21	238,6	


Nr.	zusätzliche Ablaufabschnitte	Zeitart	t	vom	bis
(1) 499	nicht Anrechenbare Zeiten (z.B. Gespräche mit Arbeitskollegen, Pausen)	X	52	0	52
(2) 451	Periodische Vorratssicherung allgemein	Vp	152	1695	1847
(3) 431	Dienstreise mit Vorgesetzten und Kollegen	Vw	97	3308	3405
(4) 431	Dienstreise mit Vorgesetzten und Kollegen	Vw	78	4117	4255
(5) 499	nicht Anrechenbare Zeiten (z.B. Gespräche mit Arbeitskollegen, Pausen)	X	167	5477	5644

Recording time data

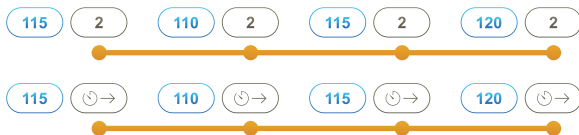
To determine time data with the **PROCESS TM app**, an iOS device and a staff with a work order is required. Analog the listed time study sheet, the operating principles of **PROCESS TM app** and the essential approach will be explained.

button icon	OS	ti HM	PD	
				Start time
 9	499	52		Non-offsettable time (time between start and beginning of activities)
115 1	1	56	115	
115 1	2	36	115	
110 2	2	38	110	
115 2	2	35	115	
120 2	2	37	120	
110 2	2	36	110	
105 2	2	37	105	
110 3	3	96	110	
				
 9	499	167		Non-offsettable time (time between end of activities and stop)
				Stop time study


Serial process sequence

Is the process sequence row after row, it is possible to use the button , instead of typing the operating sequence number.

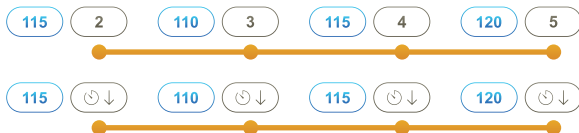
Example:




Cyclical process sequence

Is the process sequence cyclical, it is possible to use the button , instead of typing the operating sequence number.

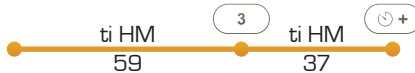
Example:



Addendum

Via the button , it is possible to extend a completed process sequence without creating a new cycle. The time will accumulate to the previous cycle.

Example: The end of process sequence 3 was not yet completed and must be extended. In evaluating this process section is to find with a time of 96 HM (59 HM + 37 HM).

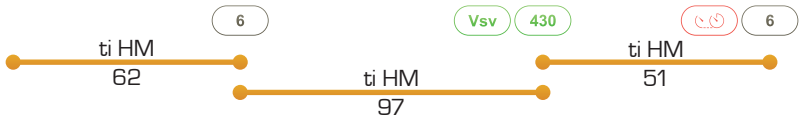


Notice: After an extension, the last process sequence can no longer be renamed. Basically it is possible to correct all mistakes minuted during the evaluation in [PROCESS TM web](#).

Split

The split function to extend a cycle which has been interrupted. The times of a split are added and appear later in the evaluation as a value. This separation remains recognizable in the origin protocol. The operation can be repeated as often as necessary.

Example: An employee interrupts his current activity [AA 6] to make a service call [VSV / 434]. Following, he resumes his work.



The values will accumulate in the evaluation of **PROCESS TM web** and displayed as one cycle with a ti of 113 HM (62 HM + 51 HM). In a split, the performance degree will be taken into account. On that point, the performance degree for the splitted process sequence have to be assigned before or after the SP key. Other assigned performance degrees to this cycle will not be evaluated.



In this example, two performance degrees were awarded in a split (110% and 120%). In this case the latter will be used. Thus the cycle will be evaluated with a ti of 113 HM (62 HM + 51 HM) and a performance degree of 120 percent.

Notice: After a split, the last process sequence can no longer be renamed. Basically it is possible to correct all mistakes minuted during the evaluation in [PROCESS TM web](#).

Rename

The last completed trace section can be renamed after a faulty input. Pressing the key **1 C 2** (the upper display shows „Rename“), the actual process sequence can be selected then.



Notice: After a split, the last process sequence can no longer be renamed.

Reference quantity

During a different influence factors arise, which can influence the time study, e.g. way metres, storage compartment level, weight, number of pallets, etc. It is possible to capture these factors during a time study. These are stored in the origin protocol, and acquired in **PROCESS TM web** under „Timemanagement ▶ Time Study ▶ Quantity input“. The quantities must be entered for the current process sequence. By confirming the ongoing process sequence the associated quantities will be stored.

1	2	
1	2	3
4	5	6
7	8	9
0	,	x

2	110	6
---	-----	---







If a cycle is splitted , the reference quantities of the split parts will be summed.

2	110	6	Vsv	430	120	6		6
---	-----	---	-----	-----	-----	---	--	---



In this example, the entered values were 2 and 6 for the first reference quantity. In the evaluation, the values will be summed automatically. So the reference quantity will be shown an 8. The same applies to the treatment of the second reference quantity.

Suchen




Zeitaufnahme / Arbeitsaufgabe	Bearbeiter	Datum	Upload
 ZATEST001	Luz	30.03.2014 11:57	
Paletten einladen			
 ZATEST002	Luz	30.03.2014 12:00	
Paletten einlagern			

Time study overview

All time studies made with **PROCESS TM app** are stored in the device and can be overview in the menu **Timestude explorer**. The time studies can be viewed, edited, evaluated or manually uploaded to **PROCESS TM web**.


Tip on the time study code opens up the 1. Page of the study and the area with all the information and the analysis options.



A tip on the upload icon  starts the upload of the time study for the evaluation in **PROCESS TM web** or the eMail dialogue will opened (depending on the selection in the parameters). While it will upload the icon is displayed in red , after the successfully upload in green .



Time studies that are no longer needed can be deleted from the device. Already uploaded time studies, remain of the the deletion in **PROCESS TM web** without interference.

Zeitaufnahme / Arbeitsaufgabe		Bearbeiter	Datum	Upload
 ZATEST001	Luz		30.03.2014 11:57	
Paletten entladen				
02	Luz		30.03.2014 12:00	
einlagern				 Löschen



Telekom.de

13:56

73 %

←

Zeitaufnahme - PROCESS TM

ⓘ

Zeitaufnahme

Arbeitsaufgabe

PROCESS TM

Wareneingang

Firma / Betriebsstätte

Kostenstelle

PROCESS TM GmbH

456123

Bereich

Größpaletten


Abteilung

Wareneingang

Zeit und Datum Information

Datum: 06.05.2014 Start: 10:24 Dauer: 13.16 min

Arbeitssystem



Ergebnis

Grundzeit tg in HM	214.67
Erholungszeit ter bei zer	0 % 0.00
Verteilzeit sachlich konstant bei z...	2 % 4.29
Verteilzeit sachlich variabel bei zvsv	2 % 4.29
Verteilzeit persönlich bei zvp	5 % 10.73
Verteilzeit tv bie zv	9.0 % 19.32
Sonstige Zuschläge	0 % 0.00
Zeit je Einheit te1 in HM	233.99
Zeit je Einheit te1 in min	2.340

Arbeitsverfahren

Paletten von Auflieger fahren, Wareneingang buchen und Paletten einlagern

Personenbezogene Daten - Name	Pers.Nr.	Alter	m/w	Ähnliche Aufgaben
Mustermann, Max	45677	44	m	Warenausga...

Betriebsmitteldaten - Bezeichnung	Menge	Betriebsmitte-Nr.	Baujahr	Zustand
Gabelhubwagen	1	3365	2010	I.O.

⌚

⌚

⌚

⌚

⌚

⌚

Time study 1.page

The 1.page serves as time study overview which contains all work task and observation information³. Further it provides information like results, surcharges and the resulting time per unit.

The surcharges are initially set through the parameter settings and can be quickly changed inside the time study by clicking the percentage value which has to be changed.

z...	2 %	1.02
zvsv	20%	1.02



Through the lower menu bar information- and evaluation-dialogues can be opened.



1.page



Result



Single times



Origin protocol



diagrams



Notes

³ The 1.page and the evaluation are not synchronized with **PROCESS TM web** and have to be seen as minimum time management.

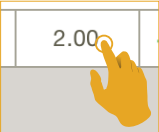
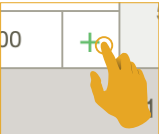

Telekom.de			11:04			77 %				
Ergebnisse - PROCESS TM										
AA-Nr.	ti HM	mLG%	tg HM	Zykl.	eps%	n'	Bezm.1	Bezm.2	Menge	incl. tg/AA HM
1	Tor öffnen und Rampe anlegen								Palette	10.7
	56	115.0%	64	1	0.0%	0	0	0	6.00	+
2	Palette entladen								Palette	41.1
	219	112.5%	246	6	3.0%	6	0	0	6.00	+
3	Label aus Lagerbüro holen								Palette	17.6
	96	110.0%	106	1	0.0%	0	0	0	6.00	+
4	Labeln der Paletten								Palette	24.2
	129	112.5%	145	6	6.7%	30	0	0	6.00	+
5	Rampe abnehmen und Tor schließen								Palette	11.1
	58	115.0%	67	1	0.0%	0	0	0	6.00	+
6	Gabelhubwagen von Abstellplatz holen								Palette	23.0
	115	120.0%	138	1	0.0%	0	0	0	6.00	+
7	Palette ins Lager fahren und einlagern								Palette	69.0
	379	109.2%	414	6	5.4%	19	0	0	6.00	+
8	Gabelhubwagen abstellen								Palette	18.0
	94	115.0%	108	1	0.0%	0	0	0	6.00	+
9	Warten auf neuen Wareneingang/Auflieger								Einheit	0.0
	118	115.0%	136	1	0.0%	0	0	0	1.00	-
499	Nicht anrechenbare Zeiten (z.B. Gespräch mit Arbeitszeits Studienmann)								Einheit	0.0
	52	100.0%	52	1	0.0%	0	0	0	1.00	-
Ergebnis										214.7

Time study result

The result page serves as a first overview of recorded data and average times per operating sequence.

Overview and functions:

..... OS-No.	Operating sequence number from the time study
..... OS-description	Description of the operating sequence
..... ti HM	Attendance time: Total of recorded hundredth-minutes per operating sequence
..... m.LG %	Average performance degree
..... tg HM	Basic time: Total of recorded hundredth-minutes per operating sequence, weighted on the average performance degree
..... Zykl.	Total of recorded cycles for one operating sequence
..... eps %	Epsilon ⁴ : Statistical accuracy of recorded cycles per operating sequen

..... n'	Required cycles to accomplish the preset confidence interval	
..... Ref. quan.1/2	Total of recorded reference quantities for the operating sequence	
..... Quantity	Free adjustable apportionment quantity per operating sequence resp. actual quantity	
..... incl.	Excluding single operating sequences from the evaluation, e.g. 499 non-allowable times + considered - unconsidered	
..... tg/AA HM	Basic time per operating sequence	
..... Unit	Unit of the recorded operating sequence, e.g. trip, procedure, pallet	



Telekom.de
11:05
77 %

Urprotokoll - PROCESS TM

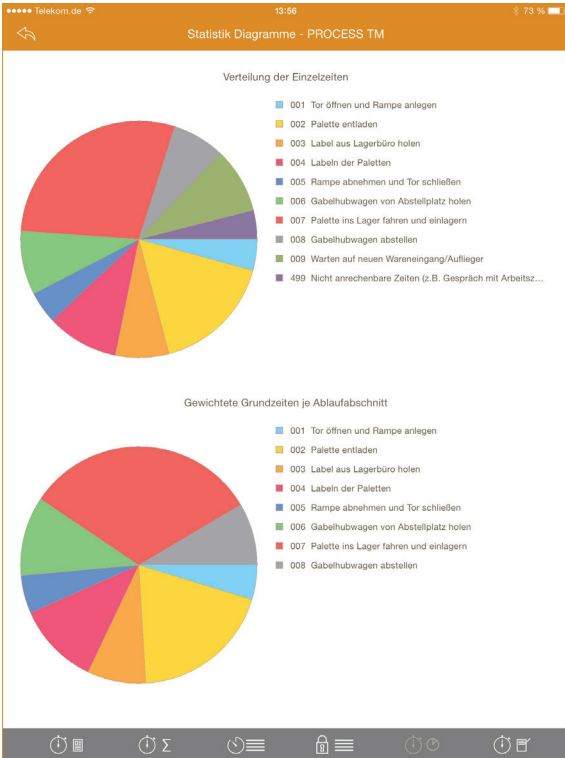
Protokoll	Beschreibung
i1	Protokolltyp iOS Version 1
1024	Startzeit der Zeitaufnahme
060514	Datum der Zeitaufnahme
40000	PROCESS TM Version
E499Z00052	Nicht anrechenbare Zeiten (z.B. Gespräch mit Arbeitszeitstudienmann) - 52 HM
L115	Leistungsgrad in 115 %
E001Z00056	Tor öffnen und Rampe anlegen - 56 HM
L115	Leistungsgrad in 115 %
E002Z00036	Palette entladen - 36 HM
L110	Leistungsgrad in 110 %
E002Z00038	Palette entladen - 38 HM
L115	Leistungsgrad in 115 %
E002Z00035	Palette entladen - 35 HM
L120	Leistungsgrad in 120 %
E002Z00037	Palette entladen - 37 HM
L110	Leistungsgrad in 110 %
E002Z00036	Palette entladen - 36 HM
L105	Leistungsgrad in 105 %
E002Z00037	Palette entladen - 37 HM
L110	Leistungsgrad in 110 %
E003Z00096	Label aus Lagerbüro holen - 96 HM
L110	Leistungsgrad in 110 %
E004Z00021	Labeln der Paletten - 21 HM
L115	Leistungsgrad in 115 %

Time study origin protocol

The origin protocol serves as basic information representation of the originally recorded data. The shown information are unchangeable and can't be affected by any input of the **PROCESS TM app**. The origin protocol chronological holds every input made during the time study.

Data inside the origin protocol:

..... E000Z00000	Cycle with information for
..... E000	operating sequence
..... Z00000	attendance time
..... M001000000	reference quantities
..... M001/M002	reference quantity 1 / 2
..... 000000	reference quantity value
..... L000	performance degree
..... U000	renaming of the previous operating sequence
..... S1	split of the following time onto a previous cycle
..... END	end of every protocol

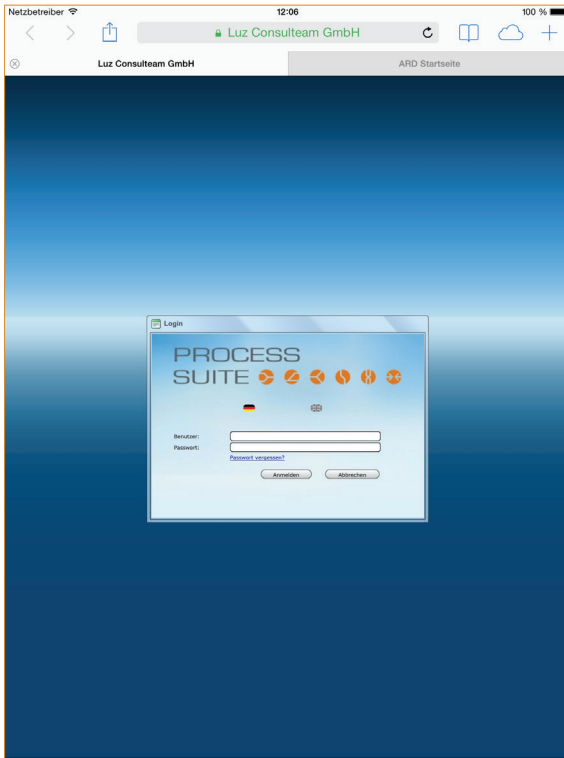


Time study diagramms

The two pie charts serve as an quick and easy overview for the time consumption of each operating sequence. This helps at visually detecting time consuming operations.

The chart distribution of single times includes all operating sequences stopped during the time study even allowance times etc.

The chart weighed basic times per operating sequence is only based on the operating sequences included inside the result page by setting incl. to +.



PROCESS TM web

Through **PROCESS TM web** the Website live.process-tm.com will be opened and the time studies can be edited and evaluated.

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