



Pioniers in human centered production

#technologiehelpteenhandje



Met steun van



EFRO
EUROPEES FONDS
VOOR REGIONALE
ONTWIKKELING





Slim visualisatie- en beheersysteem

02
03
Proeftuin 3



PROGRAMMA | MAANDAG 30 MEI

13u30

- We verwelkomen jullie graag met koffie en gebak.

14u00

- Verwelkoming
Gunther Bamelis, voorzitter COVATTI
- Voorstelling van de proeftuin
Dominique Kesteloot, WAAK
- Gastspreeker verbonden aan de proeftuin
Jelle Demanet, DAE Howest
- Shared Engineering Bureau (SEB)
Bart Neels, Shared Engineer 4Werk
- Innovatie en cocreatie
Jean de Bethune, gedeputeerde provincie West-Vlaanderen
- Slotwoord
Tim Vannieuwenhuyse, WAAK

15u10

- Bedrijfsbezoek optioneel
We ontdekken de proeftuin 'on the floor'.

16u00

- Netwerkmoment

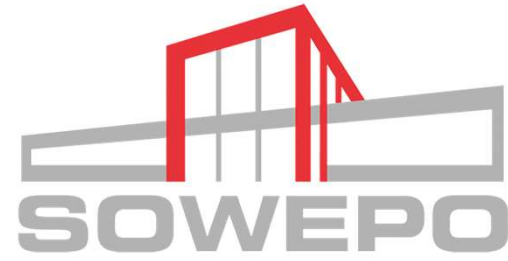


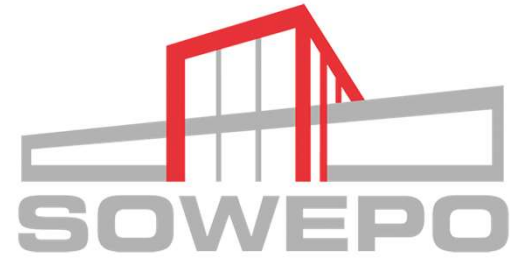
COVATTI

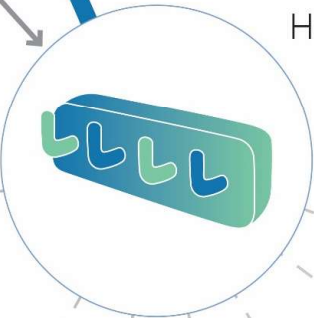
*CO*creatie en
*VA*lorisatie van
*TO*egepaste Technologische Innovatie

Uitdagingen Industrie 4.0 aanpakken
... want technologie helpt een handje.

www.technologiehelpteenhandje.be







Het ometa platform is als een kapstok waaraan verschillende toepassingen gekoppeld kunnen worden. Daarbij ontvangt iedere toepassing de nodige informatie en kan de toepassing ook informatie terugsturen.



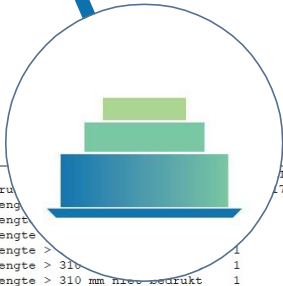




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Works Great. Since 1965.





OR	TEKST	VORM	ID	BEW. CODE	OMSCHRIJVING BEW.	TIKEL	ITEMNUMMER	REFERENTIE	OMSCHRIJVING
	20028596		14000		Snijden isolatiekous niet bedrukt	7608	5191 *0414	4.0 MET UL?	GEWEVEN KO
	20028597		1213		Snijden kabel met ontmantel lengte		34872430	117480	202 4G0250 AWG
	20028597		1213		Snijden kabel met ontmantel lengte		34872423		
	20028597		1213		Snijden kabel met ontmantel lengte		34872424		
	20028597		1213		Snijden kabel met ontmantel lengte > 310		34872425	783071	100ADER 0250 G
	20028597		1213		Snijden kabel met ontmantel lengte > 310		34872426	703215	100ADER 0250 B
	20028597		1213		Snijden kabel met ontmantel lengte > 310 mm niet bedrukt		34872427	703192	100ADER 0250 Z
	20028597		1213		Snijden kabel met ontmantel lengte > 310 mm niet bedrukt		34872428	703222	100ADER 0250 G
	20028597		1213		Snijden kabel met ontmantel lengte > 310 mm niet bedrukt		34872429	697279	100ADER AFSCH
	20028598		1422		Snijden + bedrukken kous met PC	1	34872431	702669 5291 4.8/2.4	T0.51 GS UL? KRR 4.8/2.

APS.EL.40210 FUSEE 01/W10 WO 0

122906 ADX 210 FUSEBOX 2.0 N1

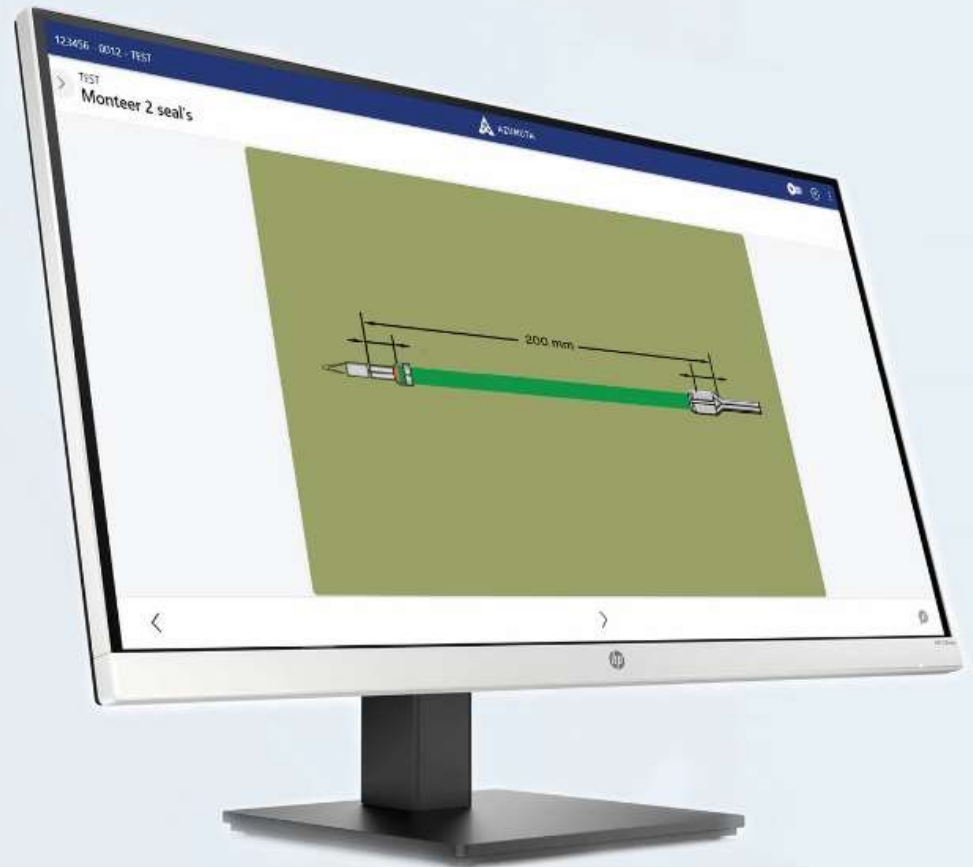
Van AG	Cel	Afd.groep	Deze AG	Naar AG	Afd.groep	Cel	PMT
9001AG		100.11	9002	9003AG	100.11		3018

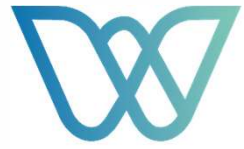
ID	Plaats	Item	Omschrijving	Aantal	EH	SL	Ontm.	Bijkomend info WVB
2270	BBB2	119081	AK 595 002 732 RAIL 2-FOLD	1	ST			Bit Umbraco Hop 4 x 50 mm Schroefkoppel 5 NM Schroevendraaier W5487 Niet achteruit schroeven

Bewerking: Elektrisch testen kabelboom (per draad) + markeren

Bewerking: Monteren kabelbinder . .

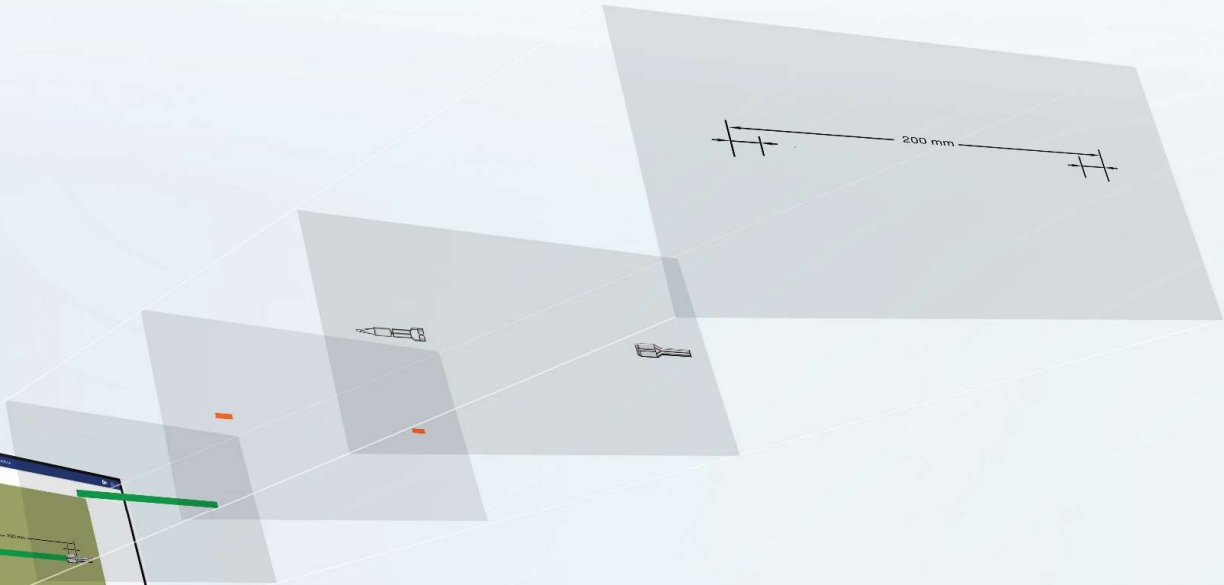
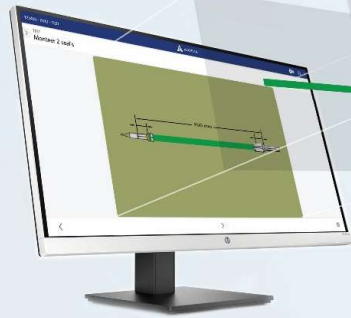
ID	Plaats	Item	Omschrijving	Aantal	EH	SL	Ontm.	Bijkomend info WVB
		33060	KBBINDER 1x2.45x100 ZW	1	ST			
001		29056	H07V2-K 2.50 O ZW	180	MM			
074		104469	H07V2-K 16.00 O ZW	190	MM			





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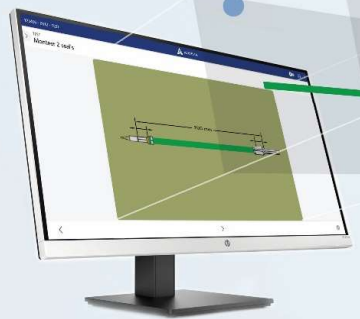
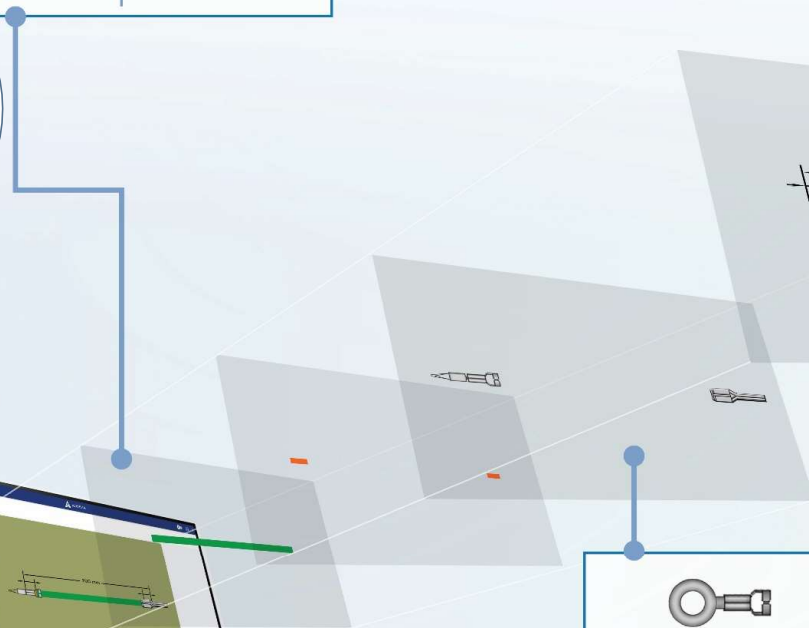
Works Great. Since 1965.





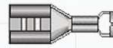


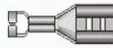








	(geen)
	X12
	IT 246842
	klant
	200 mm

ID	Itemnr.	Omschr.
0025	254986	DRAAD blauw
0026	246875	DRAAD geel
0027	268954	DRAAD bruin groen
0028	146785	DRAAD grijs rood



ID	Itemnr.	Omschr.
0126	956842	CONT. gesloten draadklamp
0127	862546	CONT. platte ring
0128	652134	CONT. platte ring behuizing



WAAK

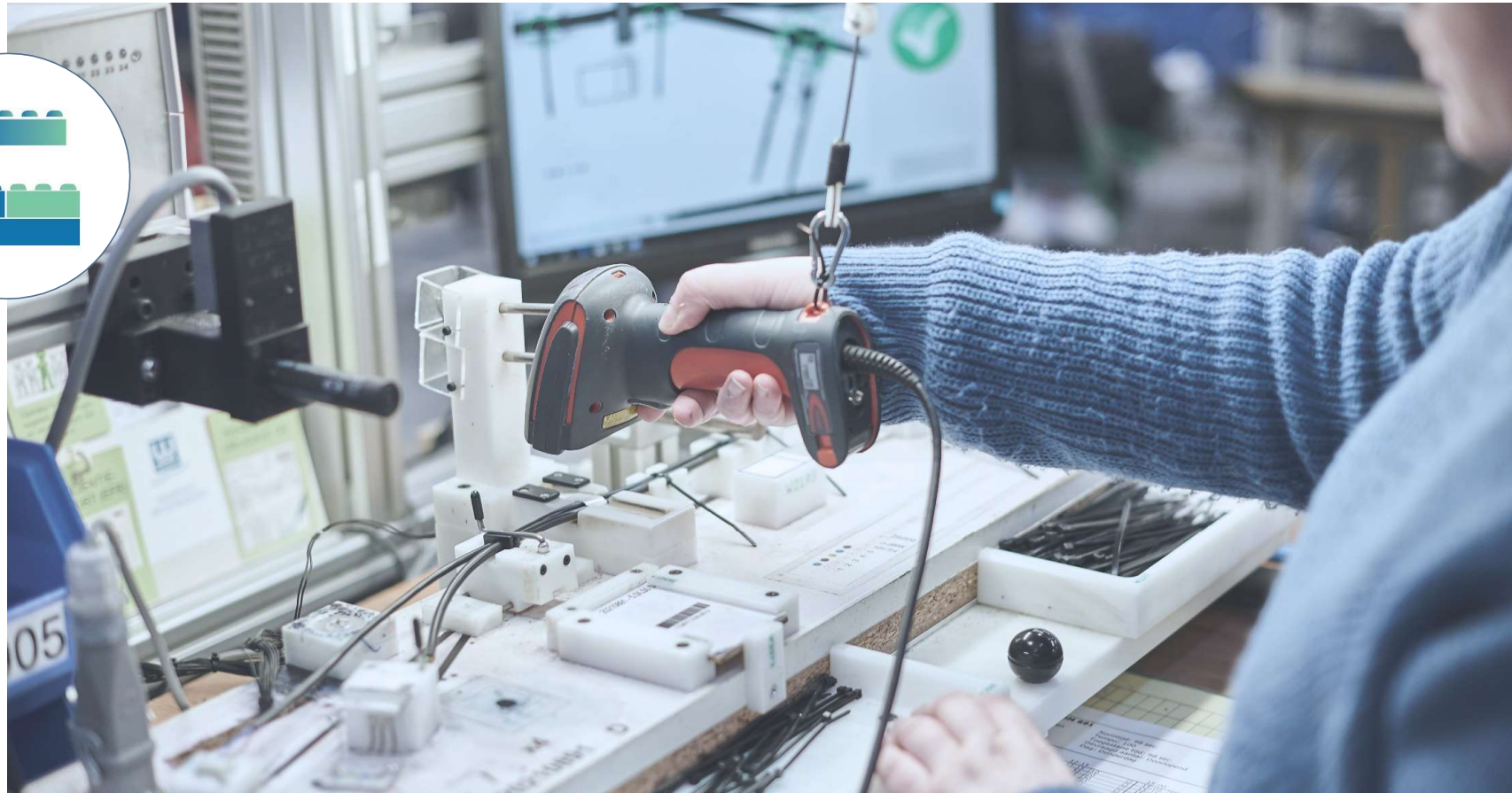
Works Great. Since 1965.





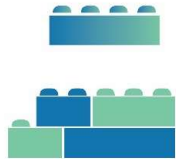
WAAK

Works Great. Since 1965.



Voor BLOX

Slechts één
overbevroegde
programmeur
kan programma's
schrijven en
onderhouden.



```
grab_image_start (AcqHandle, -1)
grab_image_async (ImageLight, AcqHandle, -1)
grab_image_async (ImageLight, AcqHandle, -1)
set_framegrabber_param (AcqHandle, 'do_stop_grabbing', -1)
```

```
*****
* read_image (ImageDark, 'S:/Meta_data/LOU/114937/V21W30/flex3/Programma/Data/114937_dark10.tiff')
* mirror_image (ImageDark, ImageDark, 'column')
* write_image (ImageDark, 'tiff', 0, 'S:/Meta_data/LOU/114937/V21W30/flex3/Programma/Data/114937_darknew.tiff')
* read_image (ImageLight, dir_data+ '/114937_light.tiff')
* mirror_image (ImageLight, ImageLight, 'column')
* write_image (ImageLight, 'tiff', 0, 'S:/Meta_data/LOU/114937/V21W30/flex3/Programma/Data/114937_lightnew.tiff')
```

```
****croppen****
gen_rectangle1 (ROI_crop, 2200.42, 288.01, 3604.1, 4816)
reduce_domain (ImageDark, ROI_crop, ImageReduced)
crop_domain (ImageReduced, ImagePart)
```

```
dev_display (ImagePart)
get_image_size (ImagePart, Width, Height)
decompose3 (ImagePart, R, G, B)
trunc (R, G, B, h, 3)
trunc (R, G, B, l, 3)
```

```
reduce_domain (ImageLight, ImageReduced, ImagePart_light)
crop_domain (ImageReduced, ImagePart_light, ImagePart_light)
trunc (ImagePart_light, R, G, B, h, 3)
trunc (ImagePart_light, R, G, B, l, 3)
```

```
*lengte profielen
median_image (R, ImageMedian_lengte_doos, 'circle', 20, 'mirrored')
threshold (ImageMedian_lengte_doos, Region_lengte_doos, 0, 10)
fill_up (Region_lengte_doos, RegionFillUp_lengte_doos)
```

```
connection (RegionFillUp_lengte_doos, ConnectedRegions_lengte_doos)
select_shape (ConnectedRegions_lengte_doos, SelectedRegions_lengte_doos, 'area', 'and', 1500000, 3800000)
```

```
region_features (SelectedRegions_lengte_doos, 'row1', row1_part)
region_features (SelectedRegions_lengte_doos, 'row2', row2_part)
region_features (SelectedRegions_lengte_doos, 'column1', column1_part)
region_features (SelectedRegions_lengte_doos, 'column2', column2_part)
region_features (SelectedRegions_lengte_doos, 'rect2_phi', Phi)
start_line_row:= row1_part+(row2_part - row1_part)/2
```

```
line_position (start_line_row, column1_part, start_line_row, column2_part, Line_RowCenter, Line_ColCenter, Length_line, Phi_line)
if (Length_line >3700 and Length_line<4500)
dev_set_color ('green')
dev_set_line_width (2)
disp_cross (WindowHandle, start_line_row, column1_part, 50, rad(45))
disp_cross (WindowHandle, start_line_row, column2_part, 50, rad(45))
disp_line (WindowHandle, start_line_row, column1_part, start_line_row, column2_part)
```

```
*****model maken*****
median_image (s, ImageMedian, 'square', 20, 'mirrored')
threshold (ImageMedian, Region_model, 90, 255)
fill_up (Region_model, RegionFillIn)
```



```
* gen_rectangle1 (ROI_0, 630.386, 48.5401, 1088.59, 210.084)
* gen_rectangle1 (TMP_Region, 989.427, 77.3873, 1088.59, 435.092)
* union2 (ROI_0, TMP_Region, ROI_0)
* reduce_domain (ImageClosing, ROI_0, ImageReduced_model)
```

```
**deform
* inspect_shape_model (ImageReduced_model, ModelImages, ModelRegions, 1, 20)
* create_local_deformable_model (ModelImages, 'auto', [], [], 'auto', 1, [], 'auto', 1, [], 'auto', 'none', 'use_polarity', 20, 'auto', [], [], ModelID_model)
* write_deformable_model (ModelID_model, Path_model + '/model_deform')
```

```
* create_shape_model (ImageReduced_model, 'auto', -3.14, 3.14, 'auto', 'auto', 'use_polarity', 'auto', 'auto', ModelID)
* write_shape_model (ModelID, Path_model + '/model_doos3')
*****
```

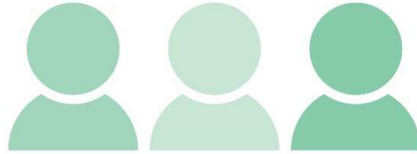
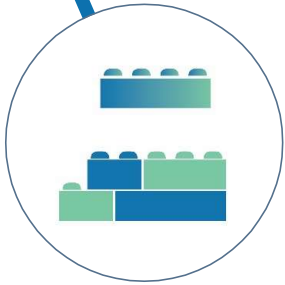
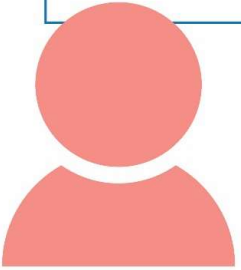
```
****model zoeken****
* read_shape_model (Path_model + '/model_doos3', ModelID)
read_deformable_model (Path_model + '/model_deform', ModelID)
gen_rectangle1 (ROI_nulpunt, 300, 0, 1332.08, 700)
```

```
reduce_domain (ImageClosing, ROI_nulpunt, ImageReduced_nulpunt)
```

```
find_local_deformable_model (ImageReduced_nulpunt, ImageRectified, VectorField, DeformedContours, ModelID, rad(-40), rad(40), 1, 1, 1, 1, 0.5, 1, 0, 0, 0.9, 'deformed_contours', [], [], Score_find, Row_find, Column_find)
* find_shape_model (ImageReduced_nulpunt, ModelID, rad(-30), rad(30), 0.2, 1, 0.5, 'none', 0, 0.9, Row_find, Column_find, Angle_find, Score_find)
```


Voor BLOX

Slechts één overbevraagde programmeur kan programma's schrijven en onderhouden.



```
grab_image_start (AcqHandle, -1)
grab_image_async (ImageLight, AcqHandle, -1)
grab_image_async (ImageLight, AcqHandle, -1)
set_framegrabber_param (AcqHandle, 'do_stop_grabbing', -1)
```

```
*****
* read_image (ImageDark, 'S:/Meta_data/LOU/114937/V21W30/flex3/Programma/Data/114937_dark10.tiff')
* mirror_image (ImageDark, ImageDark, 'column')
* write_image (ImageDark, 'tiff', 0, 'S:/Meta_data/LOU/114937/V21W30/flex3/Programma/Data/114937_darknew.tiff')
* read_image (ImageLight, dir_data+ '/114937_light.tiff')
* mirror_image (ImageLight, ImageLight, 'column')
* write_image (ImageLight, 'tiff', 0, 'S:/Meta_data/LOU/114937/V21W30/flex3/Programma/Data/114937_lightnew.tiff')
```

```
****croppen****
gen_rectangle1 (ROI_crop, 2200,42, 288,0,1, 3604,1, 4816)
reduce_domain (ImageDark, ROI_crop, ImageReduced)
crop_domain (ImageReduced, ImagePart)
```

```
dev_display (ImagePart)
get_image_size (ImagePart, Width, Height)
decompose3 (ImagePart, R, G, B)
trunc (rgb (R, G, B, h, 255), ImagePart)
trunc (b (R, G, B, l, 255), ImagePart)
```

```
reduce_domain (ImageLight, ROI_crop, ImageReduced)
crop_domain (ImageReduced, ImagePart)
dev_display (ImagePart)
get_image_size (ImagePart, Width, Height)
decompose3 (ImagePart, R, G, B)
trunc (rgb (R, G, B, h, 255), ImagePart)
trunc (b (R, G, B, l, 255), ImagePart)
```

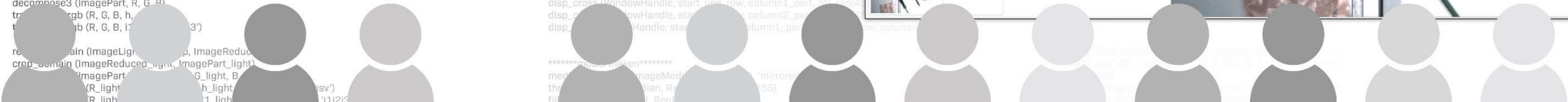
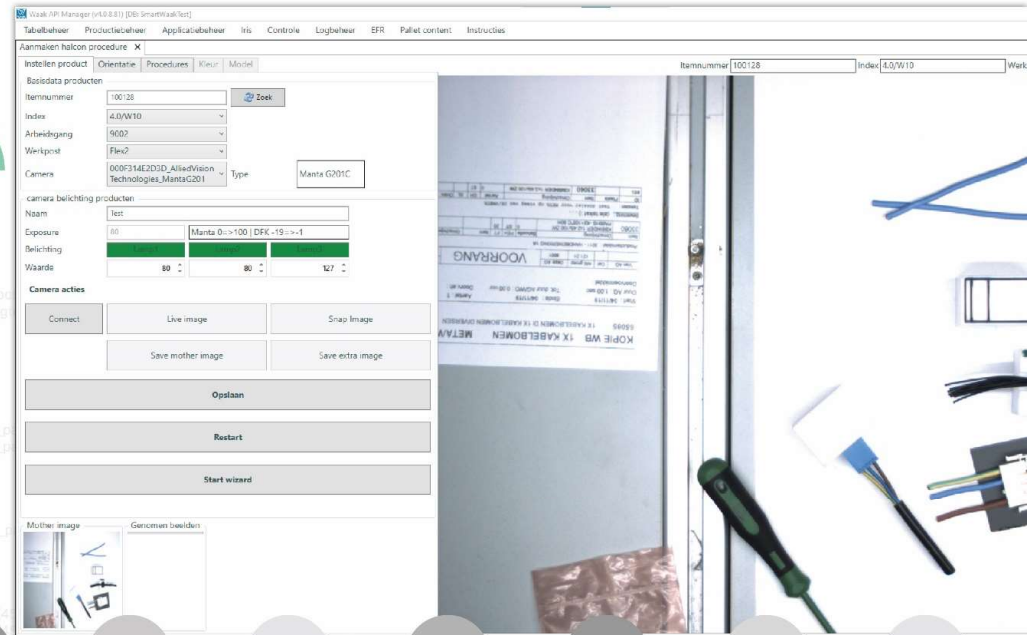
```
*lengte profielen
median_image (R, ImageMedian_lengte_dooos, 'circle', 20, 'mirrored')
threshold (ImageMedian_lengte_dooos, Region_lengte_dooos, 0, 10)
fill_up (Region_lengte_dooos, RegionFillUp_lengte_dooos)
```

```
connection (RegionFillUp_lengte_dooos, ConnectedRegions_lengte_dooos)
select_shape (ConnectedRegions_lengte_dooos, SelectedRegions_lengte_dooos, 38000000)
```

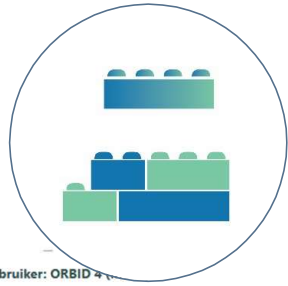
```
region_features (SelectedRegions_lengte_dooos, 'row1', row1_part)
region_features (SelectedRegions_lengte_dooos, 'row2', row2_part)
region_features (SelectedRegions_lengte_dooos, 'column1', column1_part)
region_features (SelectedRegions_lengte_dooos, 'column2', column2_part)
region_features (SelectedRegions_lengte_dooos, 'rect2_phi', Phi)
start_line_row:= row1_part+(row2_part - row1_part)/2
```

```
line_position (start_line_row, column1_part, start_line_row, column2_part, Length_line, Phi_line)
if (Length_line > 3700 and Length_line < 4500)
dev_set_color ('green')
dev_set_line_width (2)
disp_cross (WindowHandle, start_line_row, column1_part, 55, 55, 55, 55, disp_cross, WindowHandle, start_line_row, column2_part, 55, 55, 55, 55, disp_cross, WindowHandle, start_line_row, column1_part, 55, 55, 55, 55)
```

```
****croppen****
median_image (ImageMedian_lengte_dooos, 'circle', 20, 'mirrored')
threshold (ImageMedian_lengte_dooos, Region_lengte_dooos, 0, 10)
fill_up (Region_lengte_dooos, RegionFillUp_lengte_dooos)
```



Stap 1: Instellen product



Waak API Manager (v4.0.8.81) [DB: SmartWaakTest]

Tabelbeheer Productiebeheer Applicatiebeheer Iris Controle Logbeheer EFR Pallet content Instructies Gebruiker: ORBID 4...

Aanmaken halcon procedure x

Instellen product Orientatie Procedures Kleur Model

Itemnummer: 100128 Zoek

Index: 4,0/W10

Arbeidsgang: 9002

Werkpost: Flex2

Camera: 000F314E2D3D_AlliedVision Technologies_MantaG201 Type Manta G201C

camera belichting producten

Naam: Test

Exposure: 80 Manta 0=>100 | DFK -19=>-1

Belichting: 80 80 127

Waarde: 80 80 127

Camera acties

Connect Live image Snap Image

Save mother image Save extra image

Opslaan

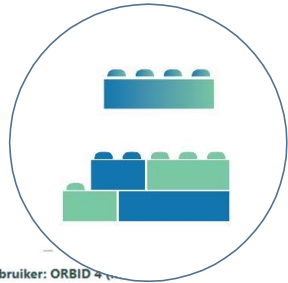
Restart

Start wizard

Mother image Genomen beelden

Itemnummer: 100128 Index 4,0/W10 Werkpost Flex2

Stap 2: oriëntatie



Waak API Manager (v4.0.8.81) [DB: SmartWaakTest]

Tabelbeheer Productiebeheer Applicatiebeheer Iris Controle Logbeheer EFR Pallet content Instructies Gebruiker: ORBID 4...

Anmaken halcon procedure x

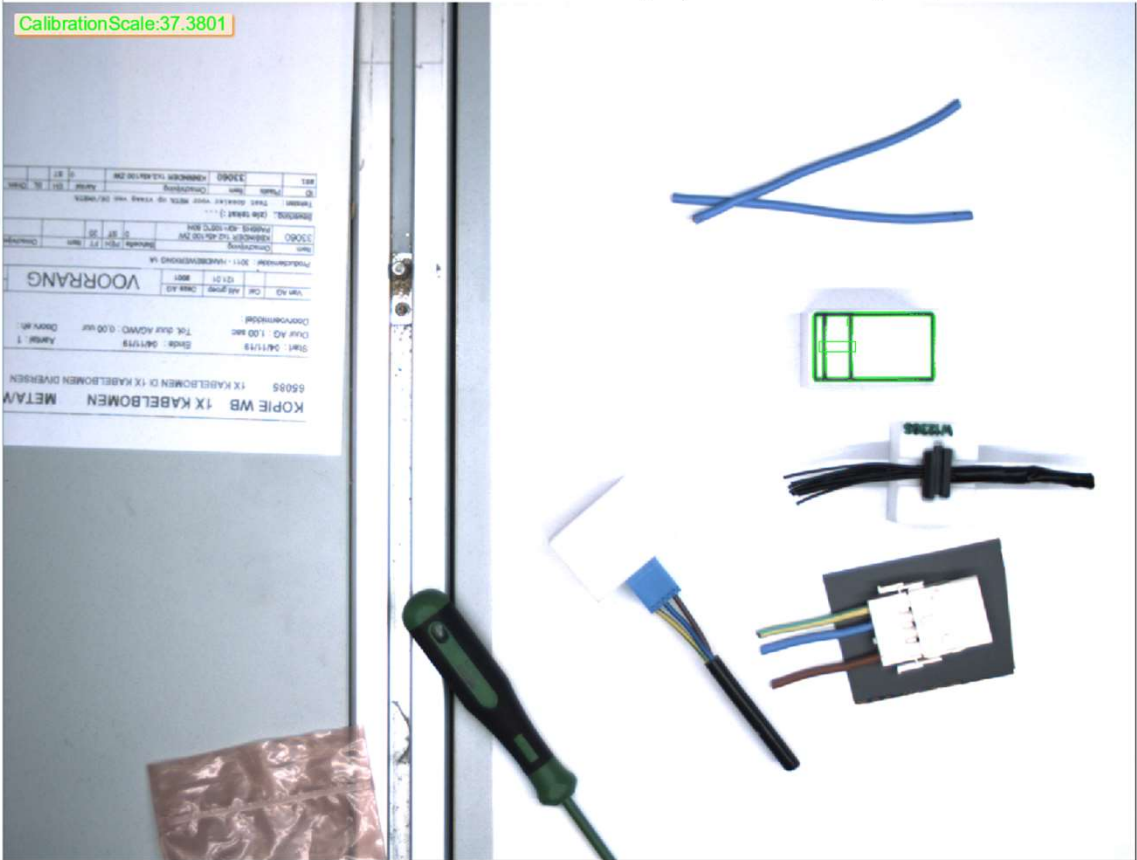
Instellen product Oriëntatie Procedures Kleur Model

Itemnummer 100128 Index 4.0/W10 Werkpost Flex2

Standaard Oriëntatie

Opzoeken standaard Oriëntatie

CalibrationScale:37.3801

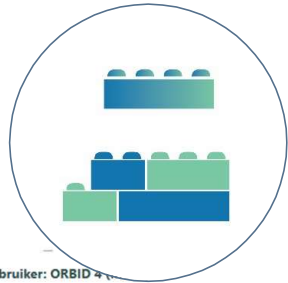


NO	OMSCHRIJVING	STUK	OPMERKINGEN
1	KABELBOMEN 1X KABELBOMEN META...	1	
2

VOORRANG

KOPIE WB 1X KABELBOMEN META...

Stap 3: Bouwstenen maken



Waak API Manager (v4.0.8.81) [DB: SmartWaakTest]

Tabelbeheer Productiebeheer Applicatiebeheer Iris Controle Logbeheer EFR Pallet content Instructies Gebruiker: ORBID 4...

Aanmaken halcon procedure x

Instellen product Oriëntatie Procedures **Kleur** Model

Itemnummer 100128 Index 4.0/W10 Werkpost Flex2

Meting xx: Kleur

Naam:

Regio waar kleur te zoeken

Center rij:	263,832971800434
Center Kolom:	1131,35855263158
Hoek:	7,14016193756815
Breedte:	581,456531951232
Hoogte:	212,814502411015

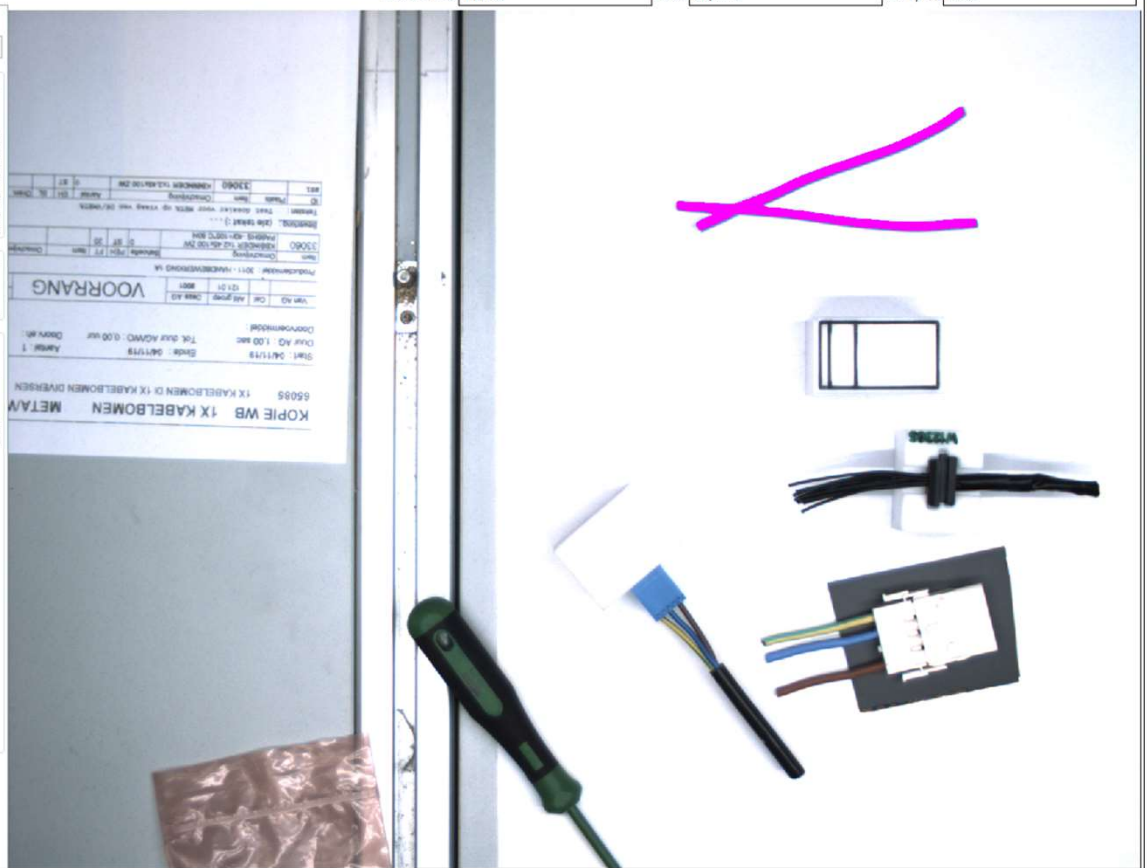
Regio van te zoeken kleur

Simulatie kleur

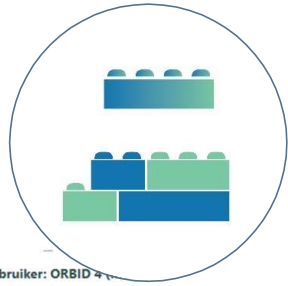
Fill up

Min: Max:

Grootte: **Aantal:** 1



Stap 4: procedure uitvoeren



Waak API Manager (v4.0.8.81) [DB: SmartWaakTest]

Tabelbeheer Productiebeheer Applicatiebeheer Iris Controle Logbeheer EFR Pallet content Instructies Gebruiker: ORBID 4...

Anmaken halcon procedure x

Instellen product Oriëntatie Procedures Kleur Model

Itemnummer 100128 Index 4.0/W10 Werkpost Flex2

Reeds aangemaakte procedures

- Configuratie
- Oriëntatie
- S1
 - K11
 - V12
 - Groen_schroeven_draaier
- S2
 - V3
 - V1
 - V2
 - K2

UP DOWN

Naam

Nieuwe sequentie Nieuwe procedure Edit Delete

Test

VOORRANG

KOPIE WB 1X KABELBOMEN METAN
55085 1X KABELBOMEN 1X KABELBOMEN DIVERSEN

Staf: 04/1718 DSKM: 04/1718
DRAF AG: 100 NAC TOL: 04/1718 0.00 VAF
DOPPEL: 1

Van AG: CDE MAF: 02/1718
DOPPEL: 02/1718

Productiejaar: 2011 - KABELBOMEN 1X

Naam: KABELBOMEN 1X KABELBOMEN DIVERSEN

Index: 4.0/W10

Itemnummer: 100128



WAAK

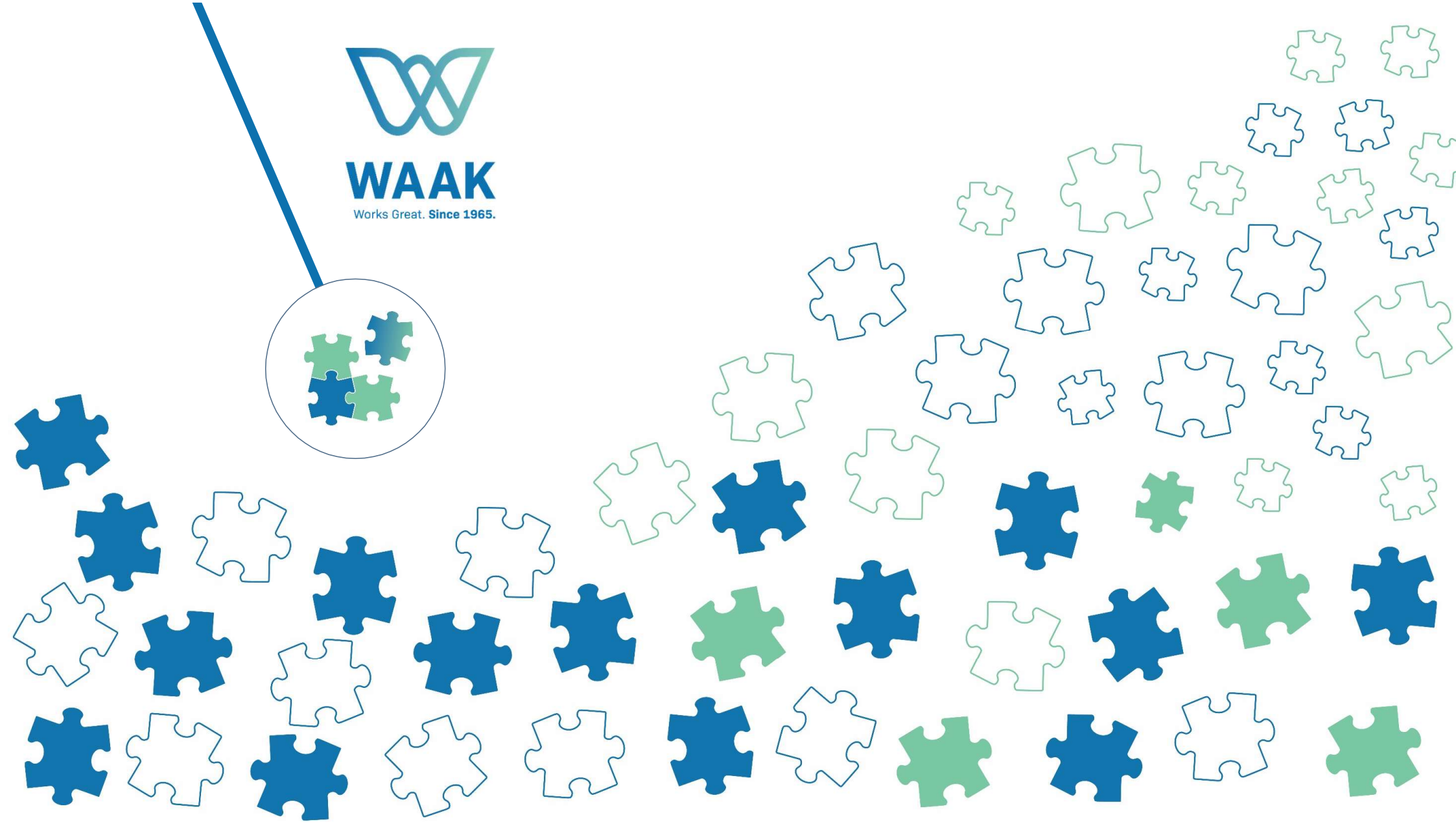
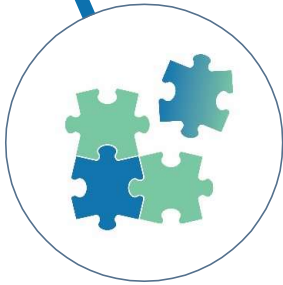
Works Great. Since 1965.

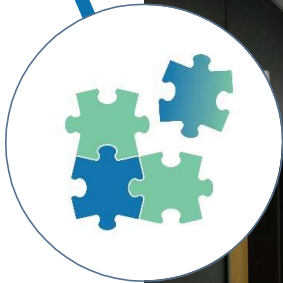




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POC: medische karretjes



POC: steelwerk



WAAK
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AZUMUTA

- Start
- Dashboards
- Planning
- Verbeterborden
- Learning & Development
- Productorders
- Verkennen
- Conditionering & logistiek
- Fabriekslayout
- MACHINE INSTELLINGEN
- Test-foutcodes
- WSS ALU 1D 23.5
- WSS ALU 1D 25
- WSS ALU 2D BS WATSON
- WSS ALU 2D MR 22/26
- WSS ALU 3D MR 18/22/26
- WSS GF 1D 23.5
- WSS ALU 2D BS 22/25
- WSS ALU 2D BS 22/28
- TOON GEARCHIVEERDE
- UNIT 1
- UNIT 3

Fabriek Open operator scherm Waak

Conditionering & logistiek

Verkennen

Nog geen notities

Conditionering & logistiek

Fabriekslayout

- Arbeidsgang 0014
 - 0014 - PERSEN KONUS
- Arbeidsgang 0036
 - 0036 - CLINCHEN DRAADSTUK
- Arbeidsgang 0052
 - 1113 - BOREN EN RIVETTEREN
- Arbeidsgang 0063
 - 0063 - PONSEN GAATJE(S)

QuickLink QR Code

AZUMUTA Werkinstructie

Conditionering & logistiek > WSS ALU 1D 23.5 > 0012 - PERSEN HANDVAT

Instructies Varianten Instellingen Bijlages Voorbeeld Versiegeschiedenis

1. 0012 - PERSEN HANDVAT

- 1.1 Instellen PERSEN HANDVAT
- 1.2 PERSEN HANDVAT 109742 D23.5 BL
- 1.3 PERSEN HANDVAT 109743 D23.5 GE
- 1.4 PERSEN HANDVAT 109102 D23.5 GN
- 1.5 PERSEN HANDVAT 109744 D23.5 RD
- 1.6 PERSEN HANDVAT 109282 D23.5 WT
- 1.7 PERSEN HANDVAT 113499 D23.5 ZW
- 1.8 Volgende werkpost - GEEL (clinchen)
- 1.9 Volgende werkpost - WIT (persen konus)
- 1.10 Volgende werkpost - ROSE (ponsen 2-voudig)

Instellen PERSEN HANDVAT

HANDVAT 23.5 CURVED BL

HANDVAT 23.5 CURVED GE

HANDVAT 23.5 CURVED GN

HANDVAT 23.5 CURVED RD

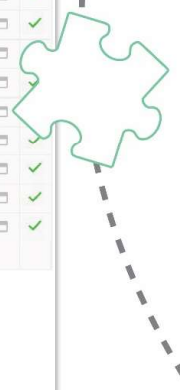
HANDVAT 23.5 CURVED WT

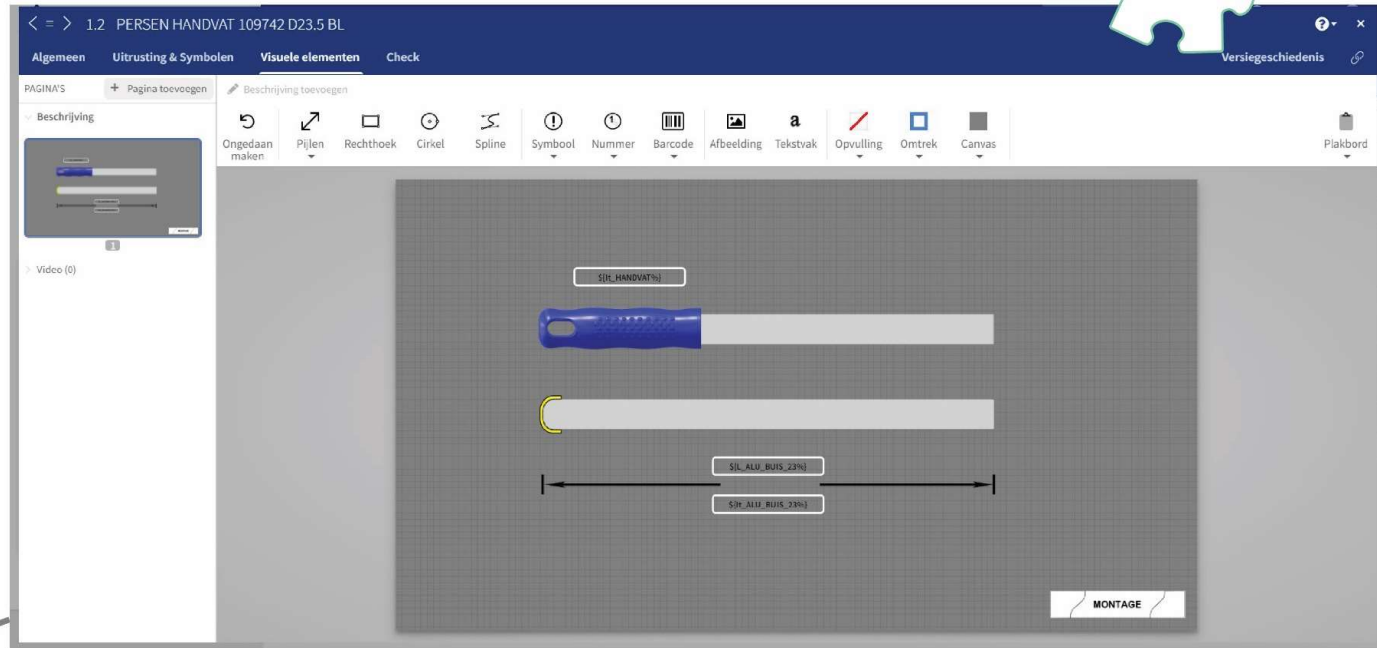
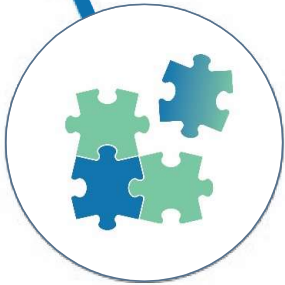
HANDVAT 23.5 CURVED ZW

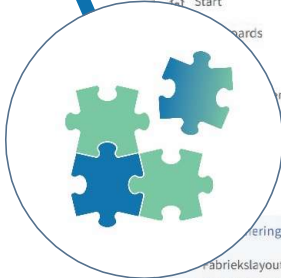
Volgende werkpost - GEEL (Clinchen)

Volgende werkpost - WIT (Persen)

Volgende werkpost - ROSE (Ponsen 2-voudig)







AZUMUTA

- Start
- Wards
- Development
- Conditioning & logistiek
- Fabriekslayout
- MACHINE INSTELLINGEN
- Test-foutcodes
- WSS ALU 1D 23.5**
- WSS ALU 1D 25
- WSS ALU 2D BS WATSON
- WSS ALU 2D MR 22/26
- WSS ALU 3D MR 18/22/26
- WSS GF 1D 23.5
- WSS ALU 2D BS 22/25
- WSS ALU 2D BS 22/28
- TOON GEARCHIVEERDE
- UNIT 1
- UNIT 3

Artikelcatego... Open operator scherm Waak

Conditionering & logistiek > WSS ALU 1D 23.5

Werkinstructies Varianten ERP Configuratie

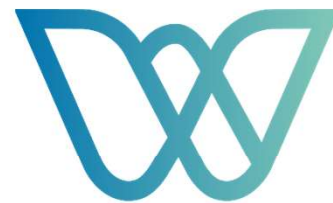
LIJST VARIANTEN PARAMETERS

Varianten

Filter varianten

Standaard-artikel	Instellen PERS HANDBAT	109742	109743	109102	109744	109982	112499	0012	0012	0012	0012	0012	0012	0012
	Instellen PERS HANDBAT	HANDBAT 23.5 CURVED BL	HANDBAT 23.5 CURVED GE	HANDBAT 23.5 CURVED GN	HANDBAT 23.5 CURVED RD	HANDBAT 23.5 CURVED WT	Wegende werkpost	Wegende werkpost	Wegende werkpost	Wegende werkpost	Wegende werkpost	Wegende werkpost	Wegende werkpost	Wegende werkpost
106359 10/W00 ALU ST D23.5-140CM HV+DRST	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
106360 10/W00 ALU ST D23.5-140CM HV+GAT	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
108594 10/W00 ALU ST D23.5-150CM HV+DRST	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
109588 10/W00 ALU ST D23.5-140CM HV+DRST	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
109589 10/W00 ALU ST D23.5-140CM HV+DRST	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
110614 10/W00 ALU ST D23.5-140CM HV+K	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
110615 10/W00 ALU ST D23.5-140CM HV+K	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
110802 10/W00 ALU ST D23.5-150CM HV+GAT	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>





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