

30 October 2018

SCADA og netværksovervågningssystemet på Biomassefyret KraftVarmeVærk



- Agenda
 - Fast Facts
 - Design af løsningen
 - Var der sten på vejen?
 - Fryser de i Århus eller virker det...
 - Spørgsmål



BKVV – fast Facts



Indfyret effekt: 110 MW

Røggaskondensering giver virkningsgrad over 103 procent.

Elproduktion: 37 MW

Varmeproduktion: 77 MW

Brændsel: 230.000 ton halm pr. år

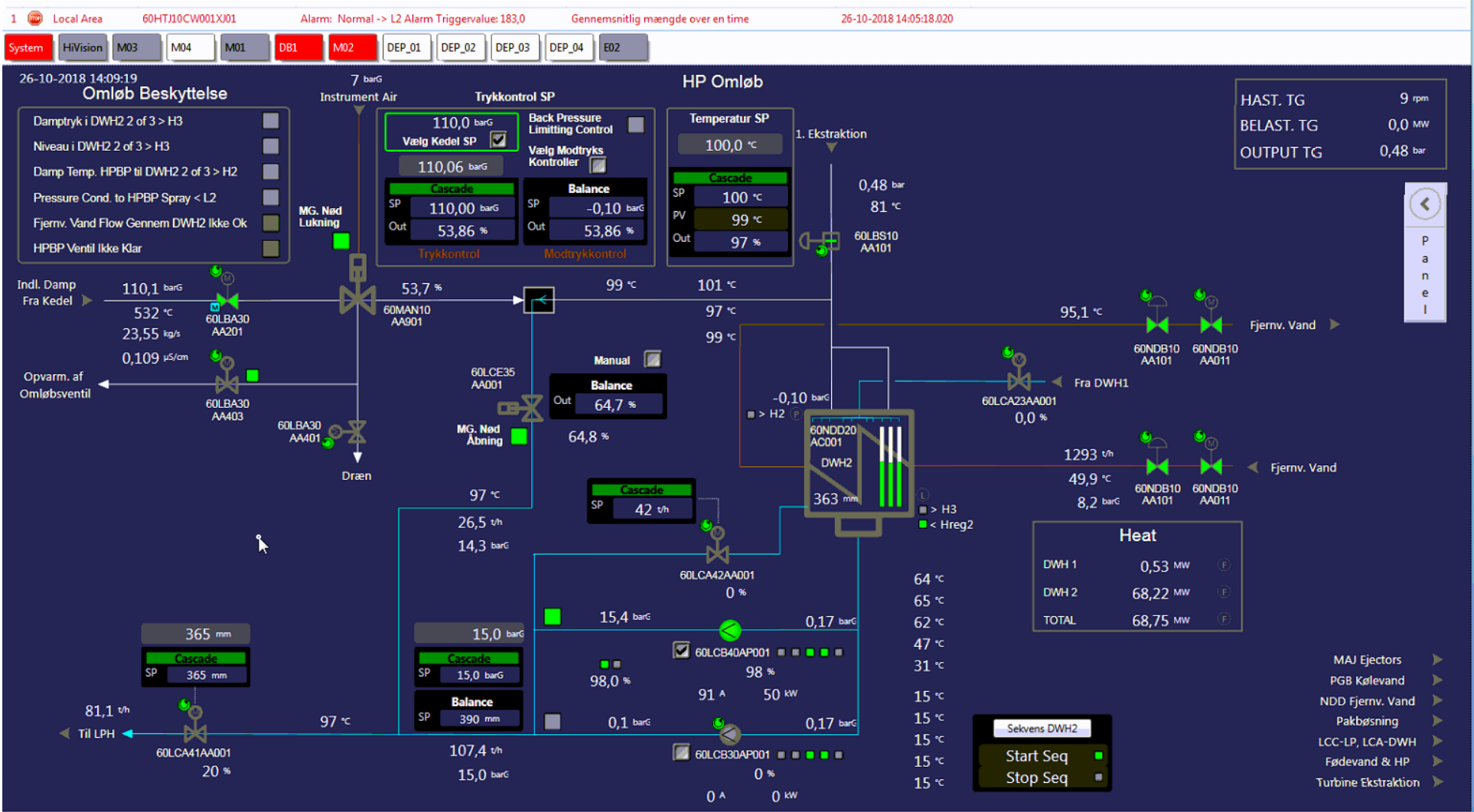
Brændsel: 66 lastbiler med halm i døgnet

Brændsel: 48 halmballer i timen

Lagerkapacitet: 67 timer eller 3.168 halmballer

Kan fyre op til 50 procent flis

Design af løsningen



Design af løsningen

Search

Kind
 Process
 Maintenance
 System

Class
 Simple
 Audit
 Condition

Date interval
Start date and time:
End date and time:

Hierarchy

- Local Area
 - System
 - HiVision
 - M03
 - M04
 - M01
 - DB1
 - M02
 - DEP_01
 - DEP_02
 - DEP_03
 - DEP_04
 - E02

Tag filter

Use priority filter

Importance
None Lowest Low Medium High Highest

Severity
 Only show information events

Severity	Note	Tag name	Priority	Event Text	In time	Out time
3	Alarm: Link Up -> Link Down	SVRSW1_P42_LINK	3		19/10/2018 10:40:46.800	
3	Alarm: Link Up -> Link Down	SW5B_P12_LINK	3		16/10/2018 13:20:00.555	
3	Alarm: Link Up -> Link Down	SW3B_P11_LINK	3		09/10/2018 13:04:47.796	
3	Alarm: Link Up -> Link Down	SW3B_P28_LINK	3		08/10/2018 14:54:45.525	08/10/2018 14:55:15.635
3	Alarm: Link Up -> Link Down	SW3B_P28_LINK	3		08/10/2018 14:48:45.522	08/10/2018 14:53:15.525
3	Alarm: Link Up -> Link Down	SW3B_P28_LINK	3		08/10/2018 14:46:45.516	08/10/2018 14:47:45.521
3	Alarm: Link Up -> Link Down	SW3B_P28_LINK	3		08/10/2018 14:44:45.516	08/10/2018 14:45:15.518
3	Alarm: Link Up -> Link Down	SW3B_P28_LINK	3		08/10/2018 14:41:15.513	08/10/2018 14:41:45.513
3	Alarm: Link Up -> Link Down	SVRSW1_P8_LINK	3		03/10/2018 14:18:30.093	03/10/2018 14:19:30.105
3	Alarm: Link Up -> Link Down	SVRSW2_P8_LINK	3		03/10/2018 14:15:58.401	03/10/2018 14:16:28.448
3	Alarm: Link Up -> Link Down	SVRSW1_P9_LINK	3		03/10/2018 14:13:18.371	03/10/2018 14:13:48.370
3	Alarm: Link Up -> Link Down	SVRSW2_P9_LINK	3		03/10/2018 14:09:43.452	03/10/2018 14:10:13.384
3	Alarm: Link Up -> Link Down	SVRSW1_P10_LINK	3		03/10/2018 14:06:48.718	03/10/2018 14:07:18.365
3	Alarm: Link Up -> Link Down	SVRSW2_P10_LINK	3		03/10/2018 14:04:33.589	03/10/2018 14:05:03.589
3	Alarm: Link Up -> Link Down	SVRSW1_P11_LINK	3		03/10/2018 14:01:44.721	03/10/2018 14:02:44.187
3	Alarm: Link Up -> Link Down	SVRSW2_P11_LINK	3		03/10/2018 13:59:03.590	03/10/2018 14:00:03.722
3	Alarm: Link Up -> Link Down	SVRSW1_P7_LINK	3		03/10/2018 13:52:28.112	03/10/2018 13:52:58.113
3	Alarm: Link Up -> Link Down	SVRSW2_P7_LINK	3		03/10/2018 13:50:02.504	03/10/2018 13:51:02.506
3	Alarm: Link Up -> Link Down	SVRSW2_P7_LINK	3		27/09/2018 09:38:53.605	27/09/2018 09:40:23.606
3	Alarm: Link Up -> Link Down	SVRSW1_P7_LINK	3		27/09/2018 09:36:19.643	27/09/2018 09:37:19.643
3	Alarm: Link Up -> Link Down	SW3C_P3_LINK	3		27/08/2018 08:27:42.774	27/08/2018 08:28:12.772
3	Alarm: ok -> unknown	ESXI002_LCDSYSSTAT	3		21/08/2018 14:21:21.789	21/08/2018 14:21:21.888
3	Alarm: ok -> unknown	ESXI002_LCDSYSSTAT	3		21/08/2018 14:20:21.545	21/08/2018 14:21:21.548
3	Alarm: ok -> unknown	ESXI003_LCDSYSSTAT	3		21/08/2018 12:10:17.675	
3	Alarm: Link Up -> Link Down	SW5B_P28_LINK	3		20/08/2018 14:27:30.641	20/08/2018 14:28:00.627
3	Alarm: Link Up -> Link Down	SW4A_P27_LINK	3		20/08/2018 14:20:58.965	20/08/2018 14:21:29.646
3	Alarm: Link Up -> Link Down	SW3B_P11_LINK	3		13/08/2018 08:13:32.307	13/08/2018 08:14:02.307
3	Alarm: Link Up -> Link Down	SW3B_P11_LINK	3		11/08/2018 08:12:29.634	11/08/2018 08:12:59.634
3	Alarm: Link Up -> Link Down	SW3B_P11_LINK	3		11/08/2018 06:09:59.498	11/08/2018 06:10:29.499
3	Alarm: Link Up -> Link Down	SW3B_P11_LINK	3		09/08/2018 15:19:27.173	09/08/2018 15:19:57.172
3	Alarm: Link Up -> Link Down	SW3B_P22_LINK	3		09/08/2018 13:37:04.076	16/08/2018 09:09:43.325
3	Alarm: Link Up -> Link Down	SW5A_P26_LINK	3		03/08/2018 15:40:24.527	03/08/2018 15:41:24.528
3	Alarm: Link Up -> Link Down	SW5A_P26_LINK	3		03/08/2018 15:31:24.516	03/08/2018 15:31:54.518
3	Alarm: Link Up -> Link Down	SW5A_P26_LINK	3		03/08/2018 15:26:24.507	03/08/2018 15:27:24.505
3	Alarm: Link Up -> Link Down	SW5A_P26_LINK	3		03/08/2018 15:22:24.501	03/08/2018 15:24:24.504
3	Alarm: Link Up -> Link Down	SW2B_P1_LINK	3		03/08/2018 14:53:27.846	03/08/2018 14:53:57.842
3	Alarm: Link Up -> Link Down	SW5B_P12_LINK	3		02/08/2018 17:06:03.730	02/08/2018 17:06:33.860
3	Alarm: Optimal -> Needs Attention	STORAGEBackup_STAT2	3		02/08/2018 16:12:57.775	02/08/2018 16:13:57.775
3	Alarm: Optimal -> Needs Attention	STORAGEBackup_STAT1	3		02/08/2018 16:12:33.624	02/08/2018 16:14:03.636
3	Alarm: Optimal -> Needs Attention	STORAGE002_STAT2	3		02/08/2018 16:10:41.132	02/08/2018 16:11:41.056
3	Alarm: Optimal -> Needs Attention	STORAGE002_STAT1	3		02/08/2018 16:10:35.528	02/08/2018 16:11:35.815
3	Alarm: Optimal -> Needs Attention	STORAGE001_STAT1	3		02/08/2018 16:08:49.052	02/08/2018 16:09:27.555
3	Alarm: Optimal -> Needs Attention	STORAGE001_STAT2	3		02/08/2018 16:08:49.052	02/08/2018 16:09:48.777

Design af løsningen

Hirschmann Industrial HiVision - ECS2526 Network Devices - Edit Mode

File Edit View Configuration Tools Help

Back Forward Up Logout Home View Undo Find Edit Mode Properties WWW Scan Network HIDiscovery Scan Preferences

Events: 186 22 295 Most Severe Recently: 2018-10-28 23:16:43 ESXI002/Port vmnic0/In Load Status Impairment: Error (In Load >=95.0, Current Value: 100.0) Acknowledge

VLAN: All

Type	Status	Device A	Port	Port Name	Media Type	Autoneg	Link	Port Enabled	Speed/Duplex	User	Load	PVID	Ingress	VLANs	VLAN Consistency Check
10.10.1.53	✓	43	43	Unknown	Unknown	☐	Connected	Yes	1000	-	0.01				
10.10.1.53	✓	42	42	Unknown	Unknown	☐	Connected	Yes	1000	-	0.00				
10.10.1.53	✓	41	41	Unknown	Unknown	☐	Connected	Yes	1000	-	0.00				
10.10.1.14/Port 1-10.10.1.53/Port	✓	40	40	Unknown	Unknown	☐	Connected	Yes	1000	-	0.00				
10.10.1.15/Port 1-10.10.1.252/Port	✓	39	39	Unknown	Unknown	☐	Connected	Yes	1000	-	0.00				
10.10.1.53/Port 1-10.10.1.252/Port	✓	38	38	Unknown	Unknown	☐	Connected	Yes	1000	-	0.03				
10.10.1.53/Port 2-10.10.1.252/Port	✓	37	37	Unknown	Unknown	☐	Connected	Yes	1000	-	0.00				
10.10.1.53/Port 3-10.10.1.252/Port	✓	36	36	Unknown	Unknown	☐	Connected	Yes	1000	-	0.00				
10.10.1.53/Port 4-10.10.1.253/Port	✓	35	35	Unknown	Unknown	☐	Connected	Yes	1000	-	0.00				
10.10.1.53/Port 5-10.10.1.253/Port	✓	34	34	Unknown	Unknown	☐	Connected	Yes	1000	-	0.00				
10.10.1.53/Port 6-10.10.1.253/Port	✓	33	33	Unknown	Unknown	☐	Connected	Yes	1000	-	0.00				
10.10.1.53/Port 7-10.26.101.12/Port	✓	32	32	Unknown	Unknown	☐	Connected	Yes	1000	-	0.00				
10.10.1.53/Port 8-10.26.103.11/Port	✓	31	31	Unknown	Unknown	☐	Connected	Yes	1000	-	0.00				
10.10.1.53/Port 9-10.26.106.11/Port	✓	30	30	Unknown	Unknown	☐	Connected	Yes	1000	-	0.00				
10.10.1.53/Port 10-10.26.105.11/Port	✓	29	29	Unknown	Unknown	☐	Connected	Yes	1000	-	1.52				
10.10.1.53/Port 11-10.26.106.11/Port	✓	28	28	Unknown	Unknown	☐	Connected	Yes	1000	-	5.62				
10.10.1.53/Port 12-10.20.42/Port	✓	27	27	Unknown	Unknown	☐	Connected	Yes	1000	-	5.31				
10.10.1.53/Port 13-10.20.32/Port	✓	26	26	Unknown	Unknown	☐	Connected	Yes	1000	-	0.07				
10.10.1.53/Port 14-10.20.61/Port	✓	25	25	Unknown	Unknown	☐	Connected	Yes	1000	-	0.00				
10.10.1.53/Port 15-10.20.42/Port	✓	24	24	Unknown	Unknown	☐	Connected	Yes	1000	-	0.00				
10.10.1.53/Port 16-10.20.41/Port	✓	23	23	Unknown	Unknown	☐	Connected	Yes	1000	-	0.00				
10.10.1.54/Port 1-10.10.1.253/Port	✓	22	22	Unknown	Unknown	☐	Connected	Yes	1000	-	0.00				
10.10.1.54/Port 2-10.10.1.253/Port	✓	21	21	Unknown	Unknown	☐	Connected	Yes	1000	-	0.00				
10.10.1.54/Port 3-10.10.1.253/Port	✓	20	20	Unknown	Unknown	☐	Connected	Yes	1000	-	0.00				
10.10.1.54/Port 4-10.10.1.252/Port	✓	19	19	Unknown	Unknown	☐	Connected	Yes	1000	-	0.00				
10.10.1.54/Port 5-10.10.1.252/Port	✓	18	18	Unknown	Unknown	☐	Connected	Yes	1000	-	0.00				
10.10.1.54/Port 6-10.10.1.252/Port	✓	17	17	Unknown	Unknown	☐	Connected	Yes	1000	-	0.00				
10.10.1.54/Port 7-10.10.1.7/PSM	✓	16	16	Unknown	Unknown	☐	Connected	Yes	1000	-	0.00				
10.10.1.54/Port 8-10.10.1.252/Port	✓	15	15	Unknown	Unknown	☐	Connected	Yes	1000	-	0.00				
10.10.1.54/Port 9-10.10.1.252/Port	✓	14	14	Unknown	Unknown	☐	Connected	Yes	1000	-	0.00				
10.10.1.54/Port 10-10.26.105.11/Port	✓	13	13	Unknown	Unknown	☐	Connected	Yes	1000	-	0.00				
10.10.1.54/Port 11-10.26.106.11/Port	✓	12	12	Unknown	Unknown	☐	Connected	Yes	100	-	0.00				
10.10.1.137/ECS2526ADMIN-10.10.1.250/10.10.1.250-10.10.1.250/10.10.1.252/Port 8-10.10.20.41/Port	✓	11	11	Unknown	Unknown	☐	Connected	Yes	100	-	0.12				
10.10.1.252/Port 9-10.10.20.51/Port	✓	10	10	Unknown	Unknown	☐	Connected	Yes	100	-	0.32				
10.10.1.252/Port 10-10.10.20.61/Port	✓	9	9	Unknown	Unknown	☐	Connected	Yes	100	-	0.13				
10.10.1.252/Port 11-10.10.20.42/Port	✓	8	8	Unknown	Unknown	☐	Connected	Yes	100	-	0.24				
10.10.1.252/Port 12-10.10.20.42/Port	✓	7	7	Unknown	Unknown	☐	Connected	Yes	100	-	0.08				
10.10.1.53	✓	6	6	Unknown	Unknown	☐	Connected	Yes	1000	-	0.00				
10.10.1.53	✓	5	5	Unknown	Unknown	☐	Connected	Yes	1000	-	0.00				
10.10.1.53	✓	4	4	Unknown	Unknown	☐	Connected	Yes	1000	-	0.00				
10.10.1.53	✓	3	3	Unknown	Unknown	☐	Connected	Yes	1000	-	0.10				
10.10.1.53	✓	2	2	Unknown	Unknown	☐	Connected	Yes	1000	-	0.10				

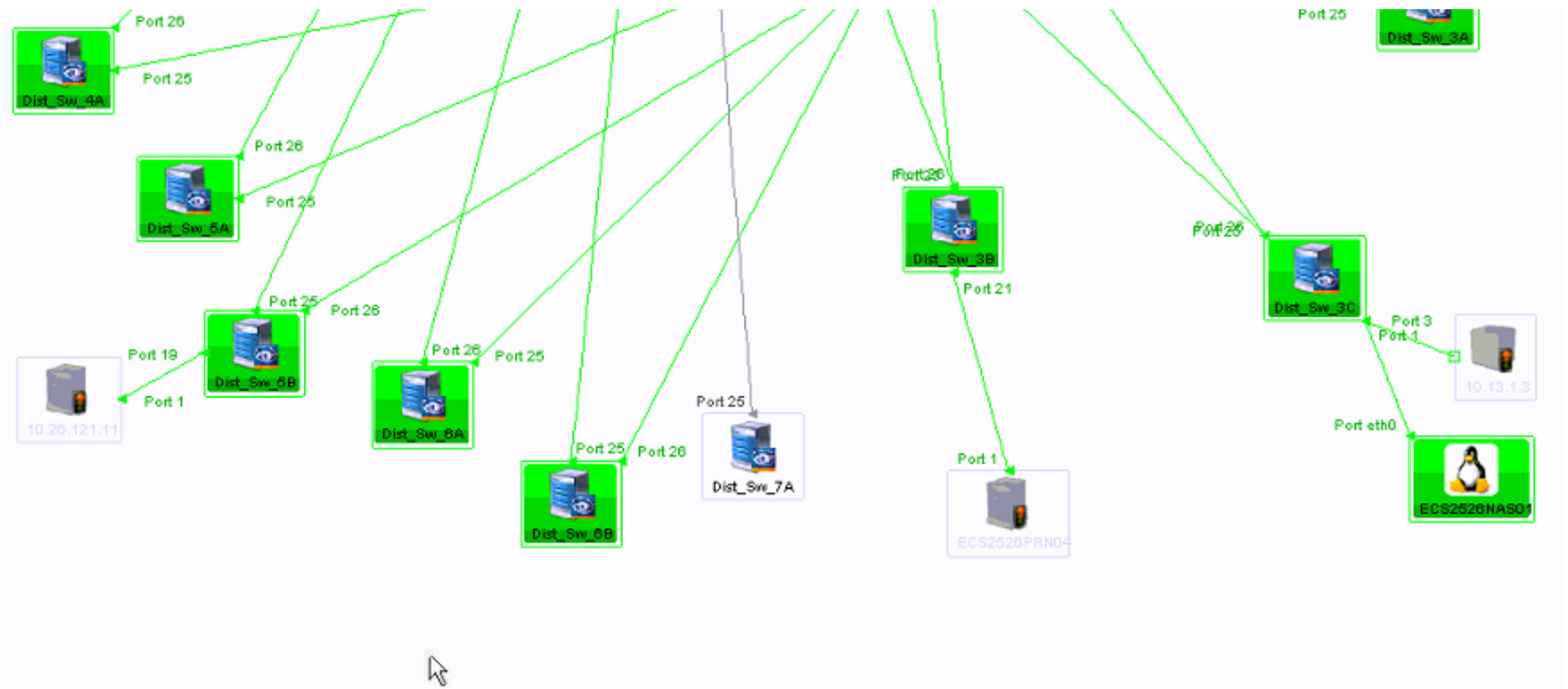
Event History Last 24 Hours Events

ID	Ack	Type	Category	Time	User	Source	Component	Message
36780	☐	✓	Status Better	2018-10-28 23:17:43	ECS2526U...	ESXI002	Port vmnic0/In Load	Status Improvement: OK (In Load <90.0, Current Value:0.0)
36779	☐	✗	Status Worse	2018-10-28 23:16:43	ECS2526U...	ESXI002	Port vmnic0/In Load	Status Impairment: Error (In Load >=95.0, Current Value: 100.0)
36778	☐	✓	Status Better	2018-10-28 23:16:13	ECS2526U...	ESXI002	Port vmnic0/In Load	Status Improvement: OK (In Load <90.0, Current Value:0.0)
36777	☐	✗	Status Worse	2018-10-28 23:15:43	ECS2526U...	ESXI002	Port vmnic0/In Load	Status Impairment: Error (In Load >=95.0, Current Value:100.0)

2018-10-29 10:52:51 Filter Events for Object Last 24 Hours Events

10:52 29/10/2018

Design af løsningen



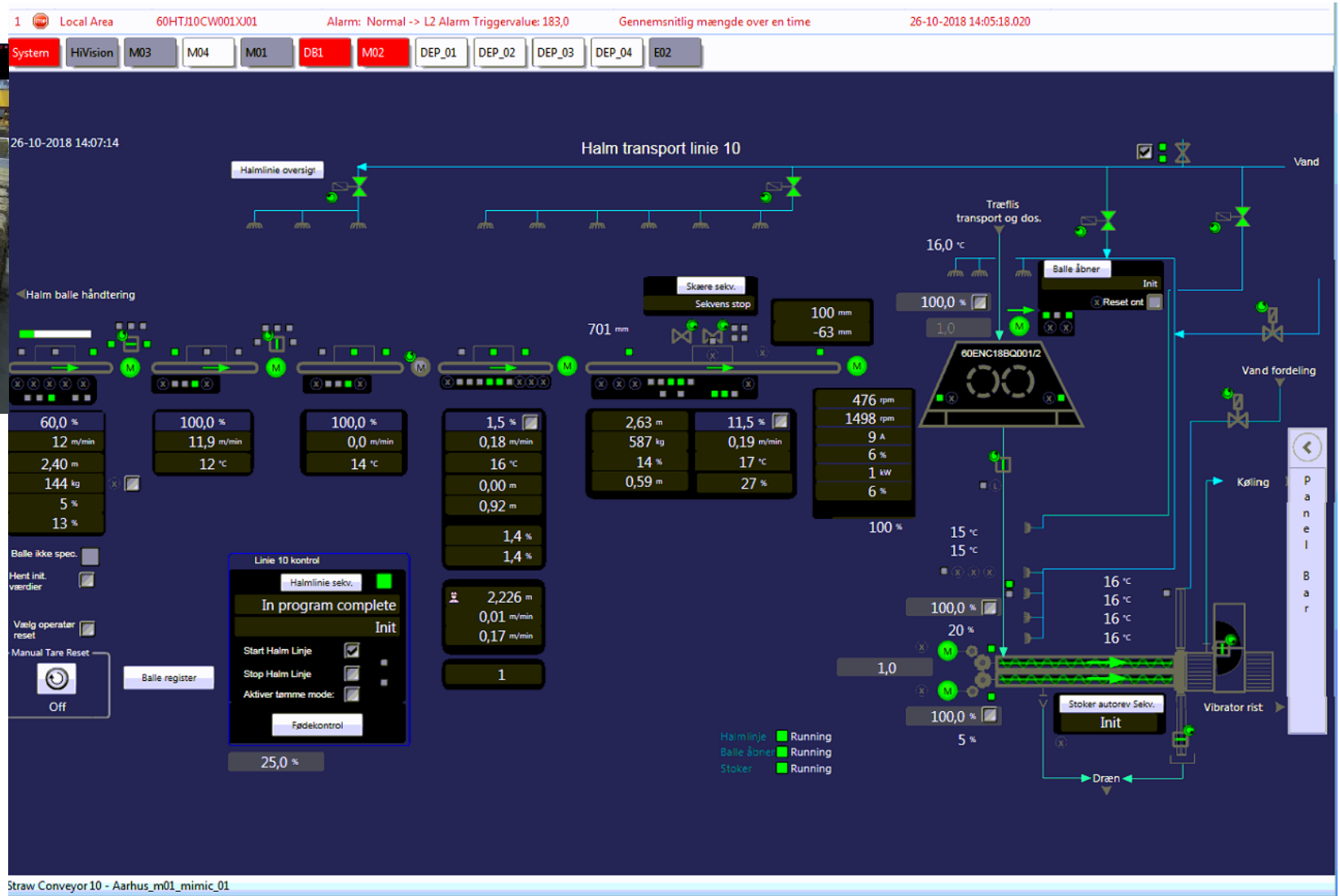
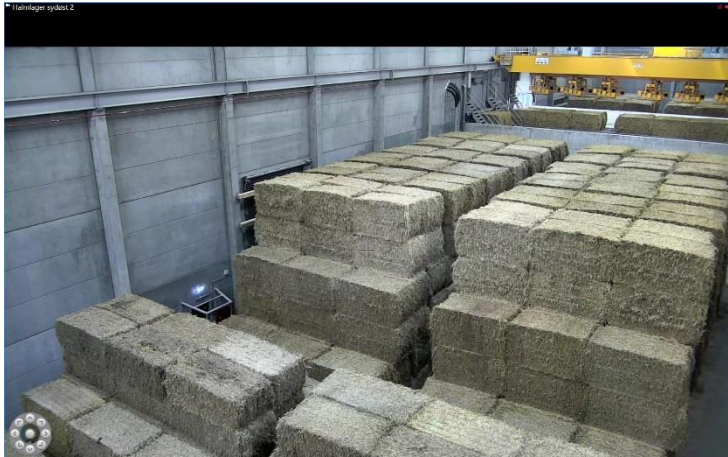
Design af løsningen



Design af løsningen

Priority	Severity	Importance	Color	Note	Area	Tag name	Alarm text
1		Medium	●		Local Area	60HTJ10CW001XQ01	Alarm: Normal -> L2 Alarm Triggervalue: 183,0
3		Medium	●		Local Area	60HTD64CQ001XQ01	Alarm: Normal -> L1 Warning Triggervalue: 2,82
1		Medium	●		Local Area	60LCC10CL301XQ01	Alarm: L1 Warning -> L2 Alarm Triggervalue: 83
1		Medium	●		Local Area	60LCC10CL302XQ01	Alarm: L1 Warning -> L2 Alarm Triggervalue: 83
3		Medium	●		Local Area	60ETN10CL001XQ01	Alarm: L2 Alarm -> L1 Warning Triggervalue: 420
1		Medium	●		Local Area	PLC02DIAGDP3	Alarm: Node IO Fault -> Node IO Fault
		None	●		Local Area	PLC02DIAGCPU	Alarm: EXTR Fault -> EXTR Fault
1		Medium	●		Local Area	60LCC10CL303XQ01	Alarm: L1 Warning -> L2 Alarm Triggervalue: 83
3		Medium	●		Local Area	60HSJ10BH001XQ01	Alarm: Open Loop -> Open Loop Triggervalue: 12
1		Medium	●		Local Area	60LAD20CL301XQ01	Alarm: L1 Warning -> L2 Alarm Triggervalue: 200
1		Medium	●		Local Area	60LAD20CL303XQ01	Alarm: L1 Warning -> L2 Alarm Triggervalue: 199
1		Medium	●		Local Area	60LAD20CL302XQ01	Alarm: L1 Warning -> L2 Alarm Triggervalue: 199
3		Medium	●		Local Area	SW3B_P11_LINK	Alarm: -> Link Down
3		Medium	●		Local Area	SW5B_P12_LINK	Alarm: -> Link Down
		None	●		Local Area	60NDG21AP001	Alarm: -> MCC Fault
		None	●		Local Area	60SEA70AN001	Alarm: -> Drawer Not in Oper.
1		Medium	●		Local Area	60HHD21GH001XA02	Alarm: -> Alarm
1		Medium	●		Local Area	60HHD21GH001XA31	Alarm: -> Alarm
1		Medium	●		Local Area	60HHD21GH001XM41	Alarm: -> Alarm
1		Medium	●		Local Area	60HHF01CL201XG52	Alarm: -> Alarm
1		Medium	●		Local Area	60HHD10CG901XG21	Alarm: -> Alarm
1		Medium	●		Local Area	60LBG21AA003	Alarm: -> Not Ready
		None	●		Local Area	60LBG21AA001	Alarm: -> Not Ready
		None	●		Local Area	60HHD10AV001	Alarm: -> Bus Fault
		None	●		Local Area	60LBA10AA002	Alarm: -> General Fault
1		Medium	●		Local Area	60MAX40CP001XQ01	Alarm: -> L2 Alarm Triggervalue: 0,0
1		Medium	●		Local Area	60CHA01XB234	Alarm: -> Alarm
1		Medium	●		Local Area	60CHA02XB305	Alarm: -> Alarm
1		Medium	●		Local Area	60CBC16GA001X41	Alarm: -> Alarm
1		Medium	●		Local Area	60CBC19GA001X41	Alarm: -> Alarm
		None	●		Local Area	60NDD20DL901ANA001	Alarm: -> L1 Warning Triggervalue: 366,35
1		Medium	●		Local Area	60MAX80CP303XG56	Alarm: -> Alarm
1		Medium	●		Local Area	60MAX80CP302XG56	Alarm: -> Alarm
1		Medium	●		Local Area	60MAX80CP301XG56	Alarm: -> Alarm
1		Medium	●		Local Area	60MAX43CP201XG52	Alarm: -> Alarm
1		Medium	●		Local Area	60MAX20AP001XM01	Alarm: -> Alarm
1		Medium	●		Local Area	60MAX41CP201XG52	Alarm: -> Alarm

Design af løsningen



Var der sten på vejen?

26-10-2018 14:07:56

Kedel last: 57 %

Halm linie oversigt

Halm balle håndtering

Manuel afbryd ordre: [Buttons]
Manuel afgiv ordre: [Buttons]

Halm balle ID-kode: 0

Overførelse prioritet: 0 0 0
Halm linie kald: 0

Vælg operator reset

Fugtighedsmåling 1: 9 %
5 %
Fugtighedsmåling 2: 15 %
5 %

PLC-PLC KOMMUNIKATION: OK OK OK OK

STRAW_BALE_TRANSPORT Running

Sekvenser

- 4. Wait for Tr. Trolley
- 1. Ready for Transport
- 3. Start Chain Conv.
- 9. Stop Conveyor

Dør kontakter

A1	A2	B1	B2	AB	K	L
X	X	X	X	X	X	X
X	X	X	X	X	X	X
X	X	X	X	X	X	X
X	X	X	X	X	X	X
X	X	X	X	X	X	X
X	X	X	X	X	X	X
X	X	X	X	X	X	X
X	X	X	X	X	X	X
X	X	X	X	X	X	X

Tilbehør

608_M0101 E/A	608_M0102 E/A	608_M0103 E/A	608_M0104 207A	608_M0109 207A	608_M01010 E/A	608_M01011 E/A
[Indicator]	[Indicator]	[Indicator]	[Indicator]	[Indicator]	[Indicator]	[Indicator]

140748 kWh

Skraber

KRAN VÆK

Halm balle ID-kode: 26763

Halm balle ID-kode: 26714

Halm balle ID-kode: 0

AUTO MODE

Halm balle ID-kode: 0

Halm balle ID-kode: 26714

18933 mm
18270 mm

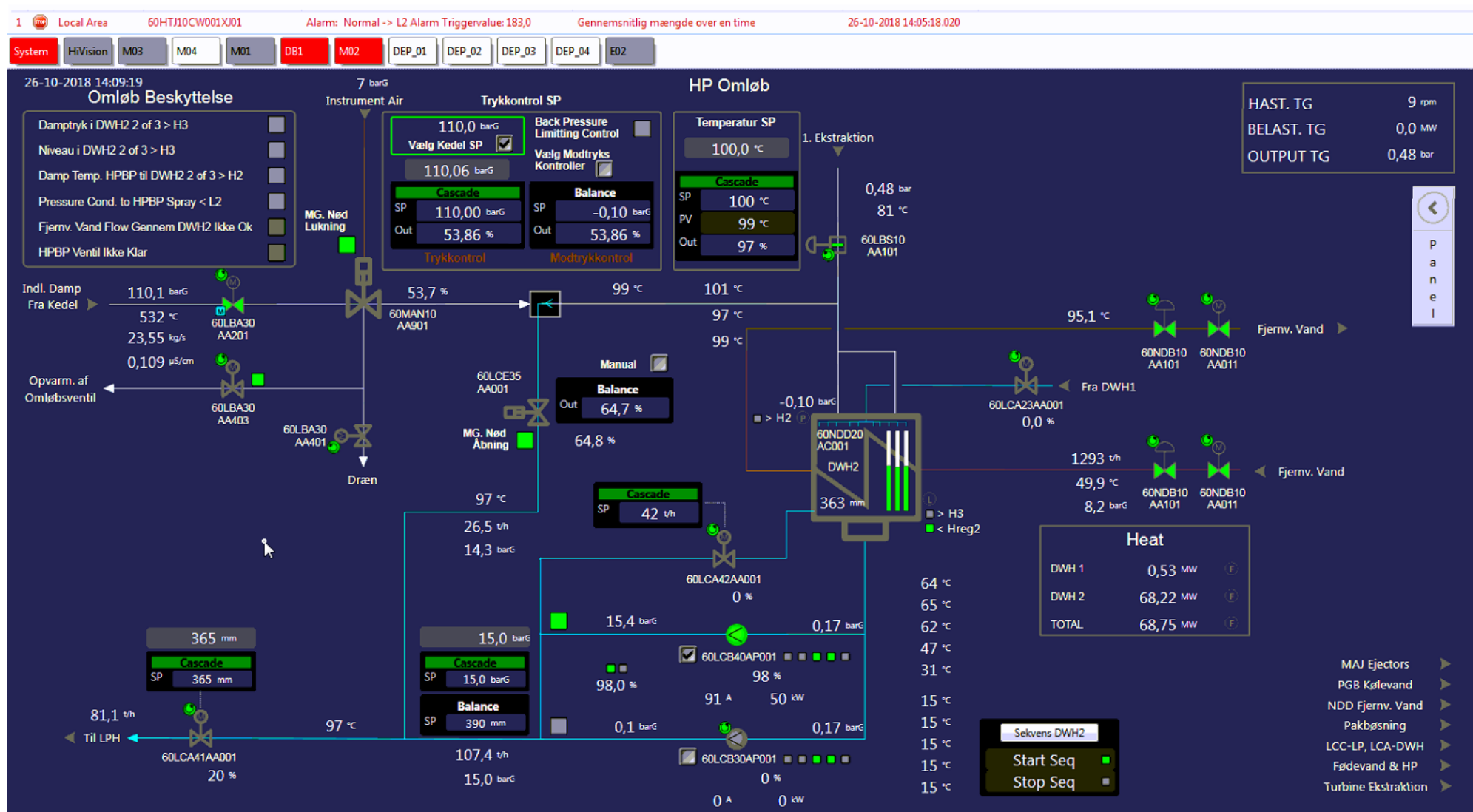
panel Bar

0



Halm balle håndtering - Aarhus_m03_mimic_01_1

Fryser de i Århus?



Tak fordi De lyttede og
nu er det min tur til at lytte - Spørg



Thank you

-  [flsmidth.com/linkedin](https://www.flsmidth.com/linkedin)
-  [flsmidth.com/twitter](https://www.flsmidth.com/twitter)
-  [flsmidth.com/facebook](https://www.flsmidth.com/facebook)
-  [flsmidth.com/instagram](https://www.flsmidth.com/instagram)
-  [flsmidth.com/youtube](https://www.flsmidth.com/youtube)