



**PASS SCADA AND MANAGEMENT
LÓRÁNT HORVÁTH**

**Digitalization in the Oil and Gas Industry
Challenges & Opportunities**

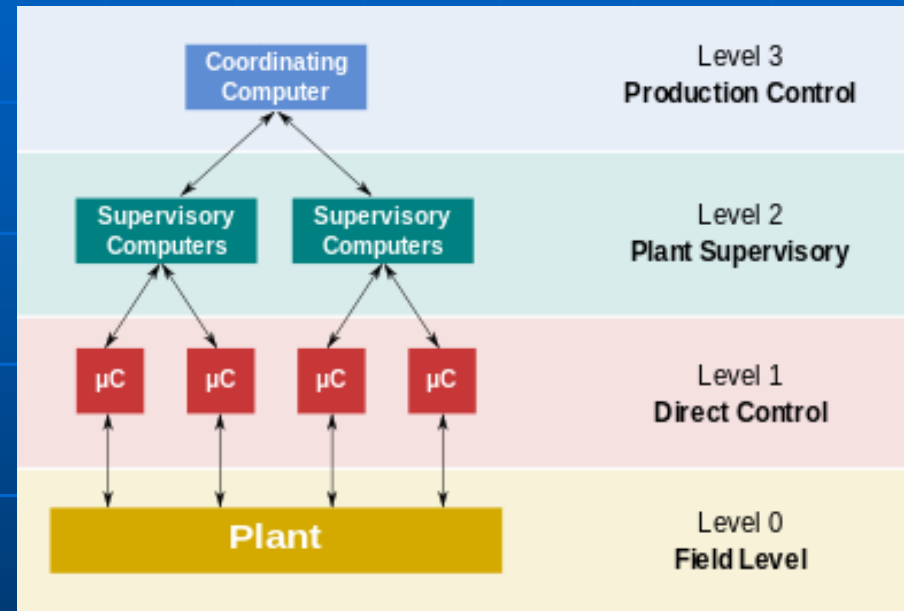
Workshop

15-16 November 2018, Visegrád

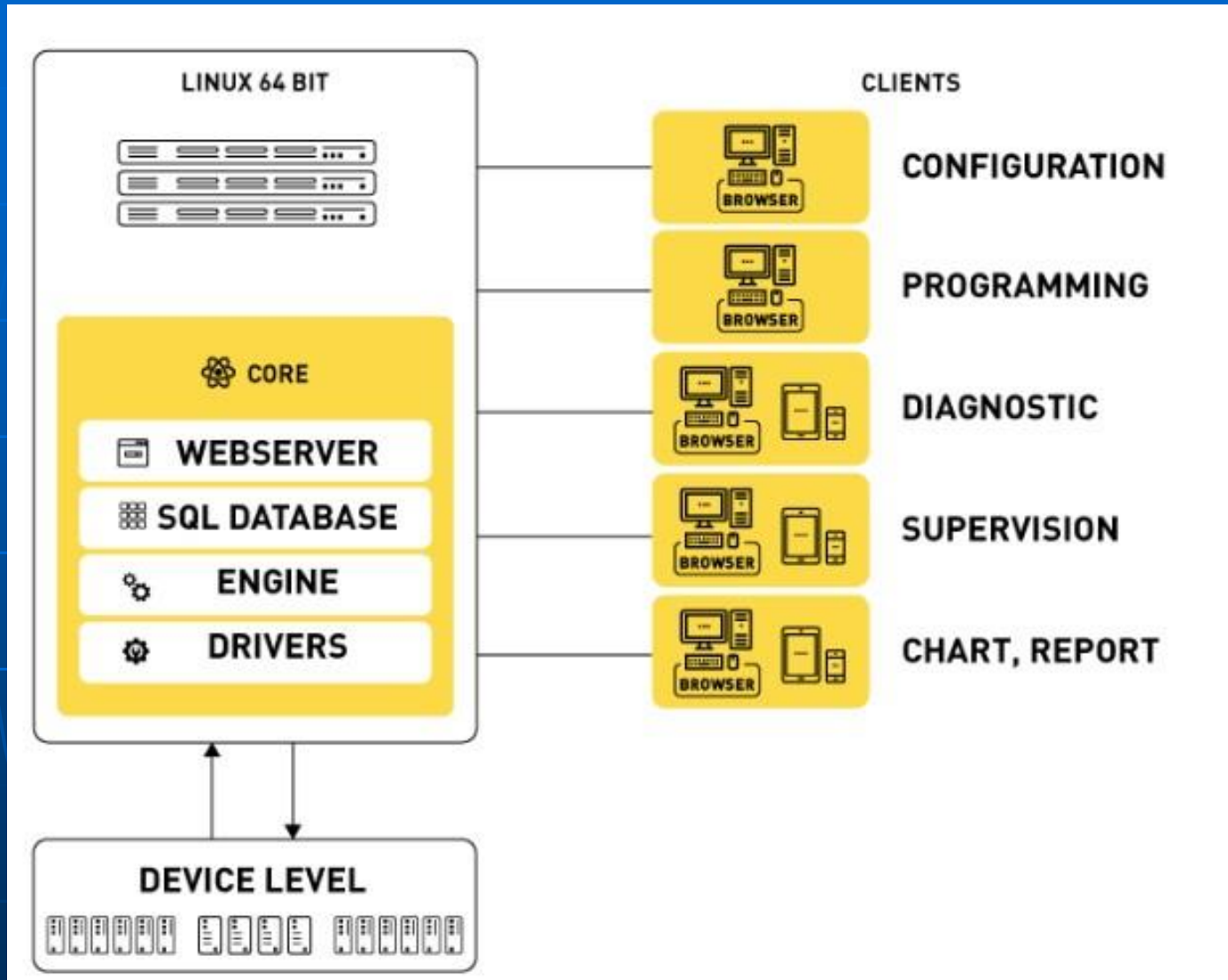
Society of Petroleum Engineers

PASS SCADA AND MANAGEMENT

- SUPERVISORY CONTROL AND DATA ACQUISITION
- LEVEL 0 – ACTUATORS, VALVES, PUMPS
- LEVEL 1 – PLC
- LEVEL 2 – SCADA COMPUTERS
- LEVEL 3 – MANAGEMENT LEVEL SCADA SYSTEM



PASS SCADA AND MANAGEMENT



PASS SCADA AND MANAGEMENT

- UNLIMITED CLIENT NUMBER, BROWSER HANDLED WITHOUT PLUGINS
- PROGRAMMABLE AND CONFIGURABLE MODULES
- ADVANCED LANGUAGE MANAGEMENT
- PICTURE CONFIGURATING, VECTORGRAPHIC EDITING
- BUILT-IN JAVASCRIPT EDITOR
- BUILT-IN REPORT EDITOR
- CLIENT APPLICATION FOR IOS AND ANDROID

PASS
PROCESS
AUTOMATION
SUPERVISOR
SYSTEM

Az első Linux alapú, böngészőn kezelhető SCADA

The diagram illustrates the system architecture. At the bottom is the 'DEVICE LEVEL' represented by a rack of hardware. Above it is the 'CORE' layer, which includes 'WEBSERVER', 'SQL DATABASE', 'ENGINE', and 'DRIVERS'. This core is connected to a 'LINUX 64 BIT' server environment. On the right, 'CLIENTS' are shown, which can be used for 'CONFIGURATION', 'PROGRAMMING', 'DIAGNOSTIC', 'SUPERVISION', and 'CHART, REPORT' functions. Each client application is shown running in a browser window.

KORLÁTLAN KLIENS · 64 BIT · LINUX · SQL · BROWSER




IPARI ÉS ÉPÜLET AUTOMATIZÁLÁS · 100% MAGYAR FEJLESZTÉS TÖBB, MINT SCADA · MINDEN VERZIÓ TELJES FUNKCIONÁLITÁSÚ

• Korlátlan kliens	• Konfigurálható és programozható vezérlő modulok
• Szerkesztő és futtató verzió egyben, korlátok nélkül	• Automatikus MOXA remote I/O felismerés
• Kezelés böngészőn keresztül	• Riport generátor
• Szabványos driver-ek Modbus-TCP, OPC, BACnet...	• Fejlett nyelvi menedzment
• ODBC, SQL, SAP interfész	• Kép konfigurálás és vektorgrafikus képszerkesztés
• HTML5 technológia	

EXTRA:
Előtelepített PASS Miniserver · 1500 I/O pont
mérésadat gyűjtés · kontrol · megjelenítés · alarm rendszer
korlátlan kliens

www.automatika.hu

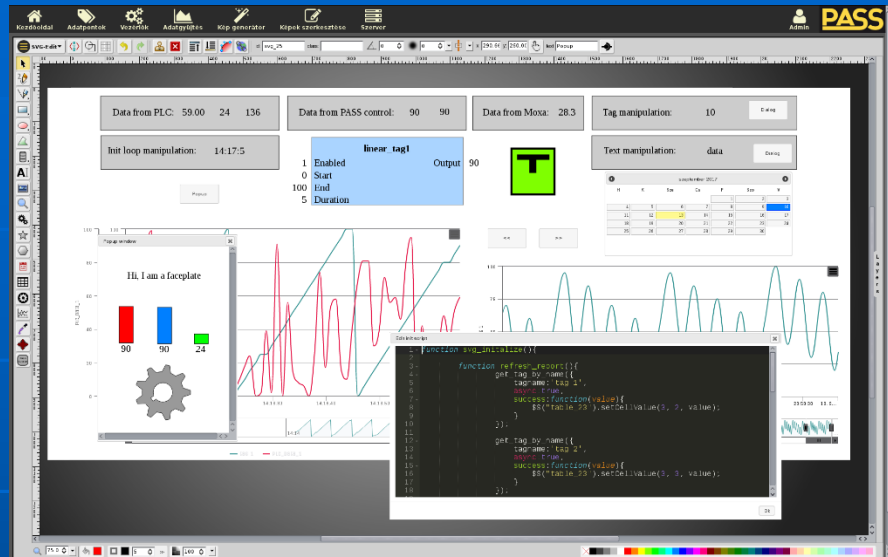
TÁMOGATÓK

PASS SCADA AND MANAGEMENT

VECTORGRAPHIC PICTURE EDITOR

- VECTORGRAPHIC DRAWING
- DINAMIC ELEMENTS
- DIAGRAM, CALENDAR, CHART ELEMENTS
- MONITORING CONTROL BLOCKS
- ...



JAVASCRIPT EDITOR

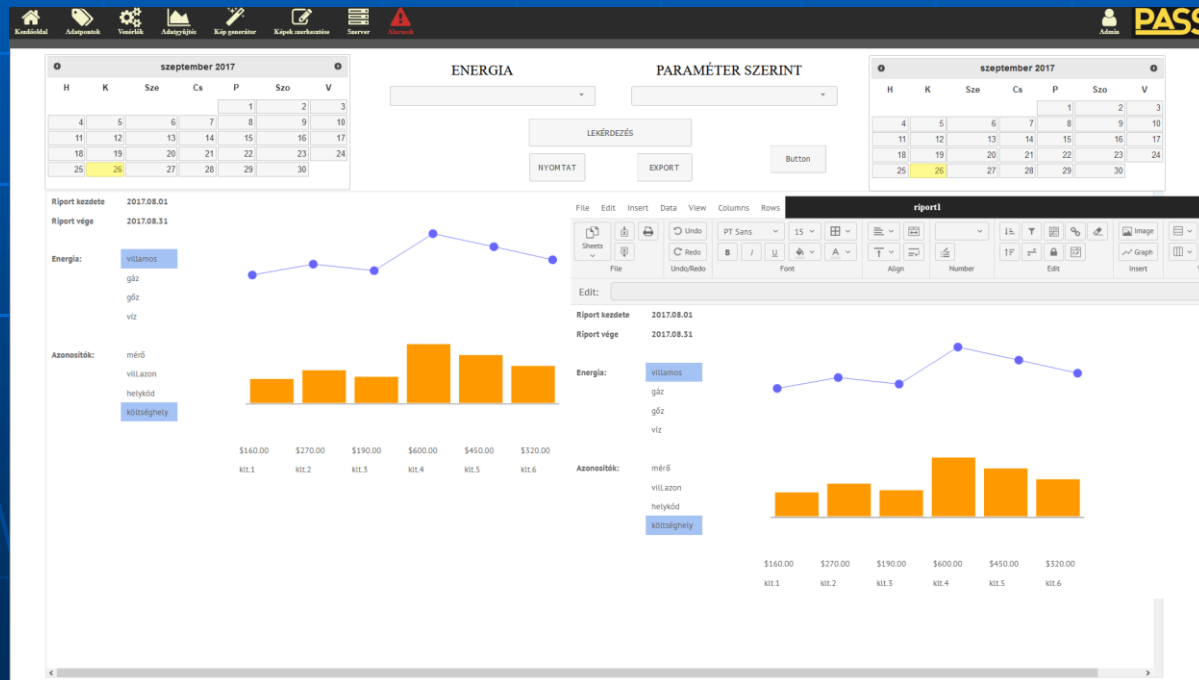
- TAG MANIPULATING
- MANIPULATING PICTURE ELEMENTS
- HANDLING SQL DATA
- RIPORT HANDLING
- ...

```
Edit init script
1- function svg_initialize(){
2-
3-     function refresh_report(){
4-         get_tag_by_name({
5-             tagname: 'tag 1',
6-             async:true,
7-             success:function(value){
8-                 $$("table_23").setCellValue(3, 2, value);
9-             }
10-        });
11-
12-        get_tag_by_name({
13-            tagname: 'tag 2',
14-            async:true,
15-            success:function(value){
16-                $$("table_23").setCellValue(3, 3, value);
17-            }
18-        });
19-
20-        get_tag_by_name({
21-            tagname: 'plc_data_1',
22-            async:true,
23-            success:function(value){
```

PASS SCADA AND MANAGEMENT

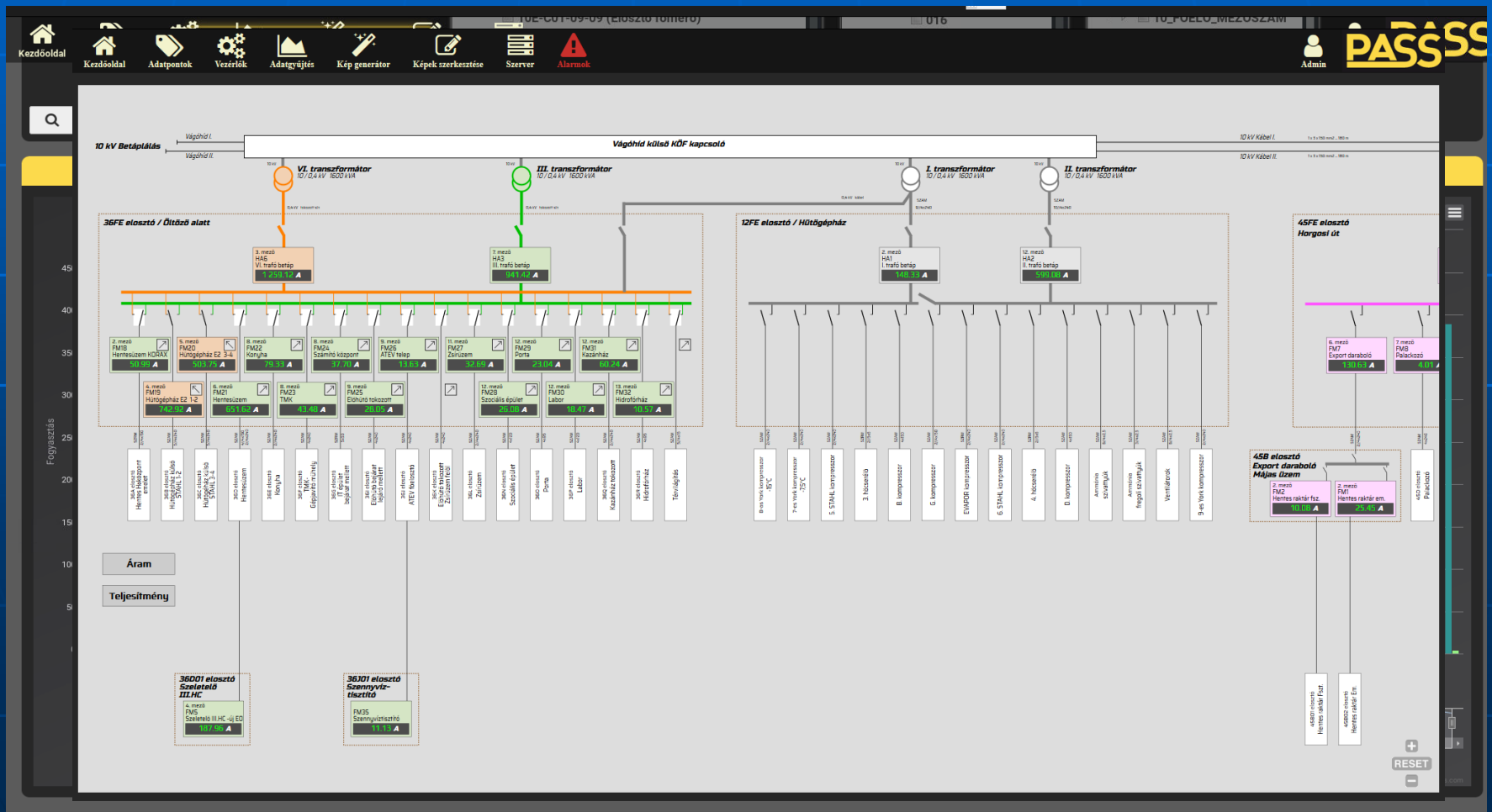
INTEGRATED REPORT EDITOR

- RIPORT FORMAT EXCEL LOOK LIKE INTERFACE
- PREPARED REPORT MULTIPLE TIME USAGE
- DIAGRAM ELEMENTS
- ...



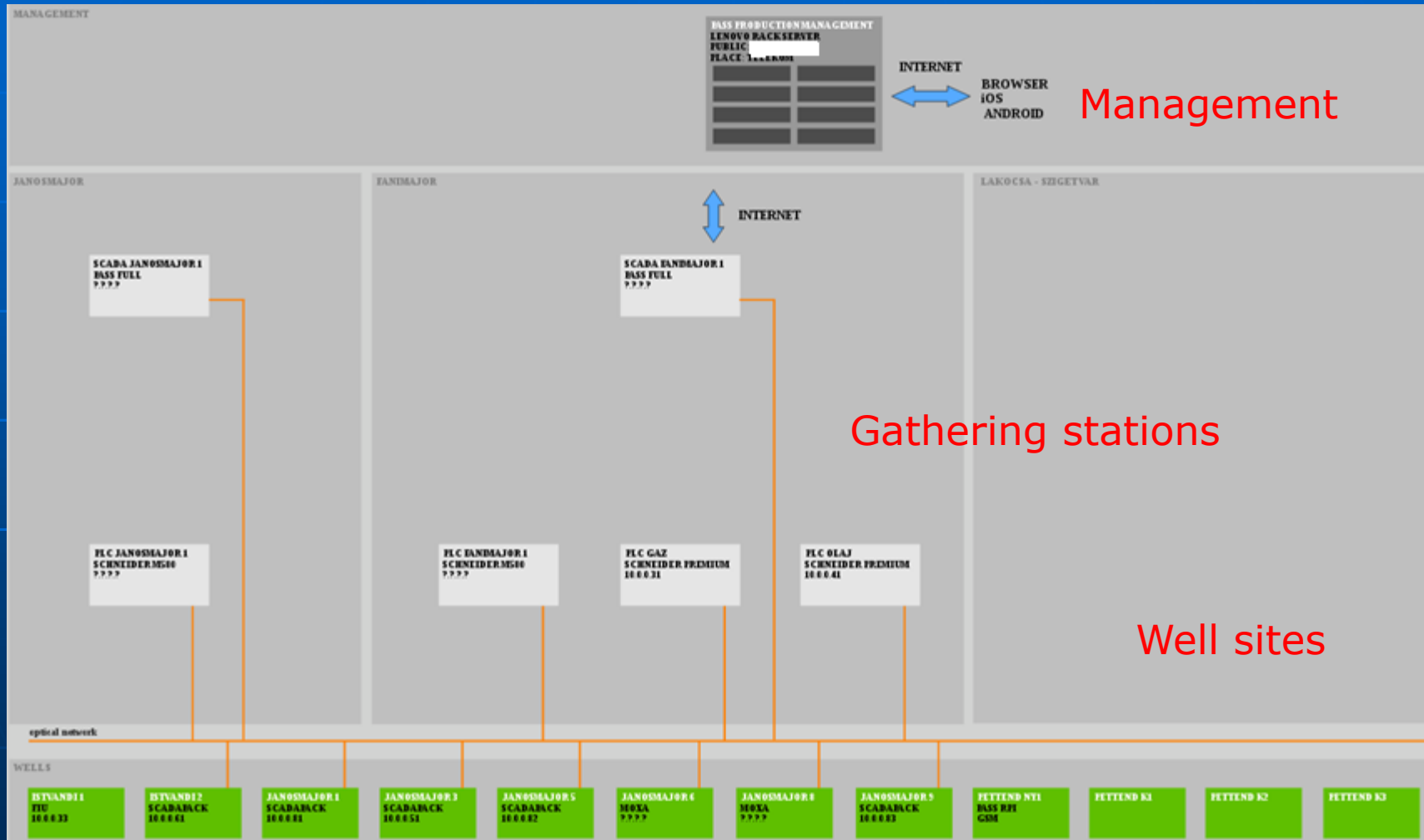
PASS SCADA AND MANAGEMENT

MEASURING, MONITORING ENERGY
PREDICT CONSUMPTION
PEAK VALUE TRACKING
REPORTS
MANAGEMENT FUNCTIONS



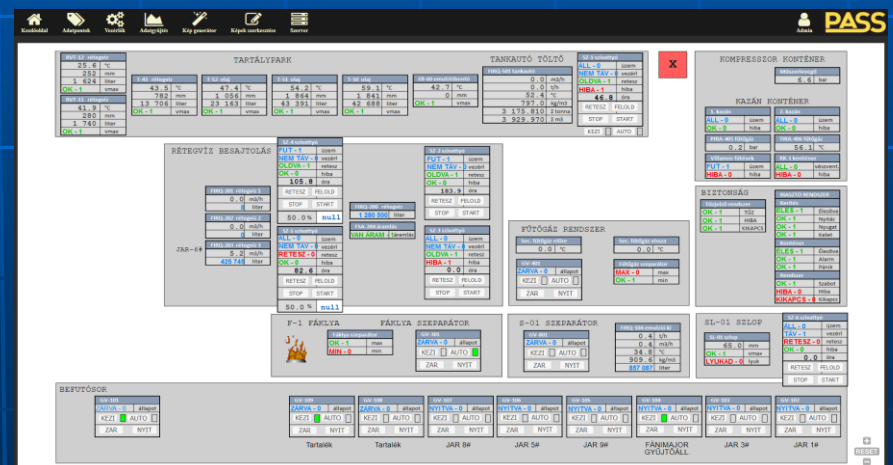
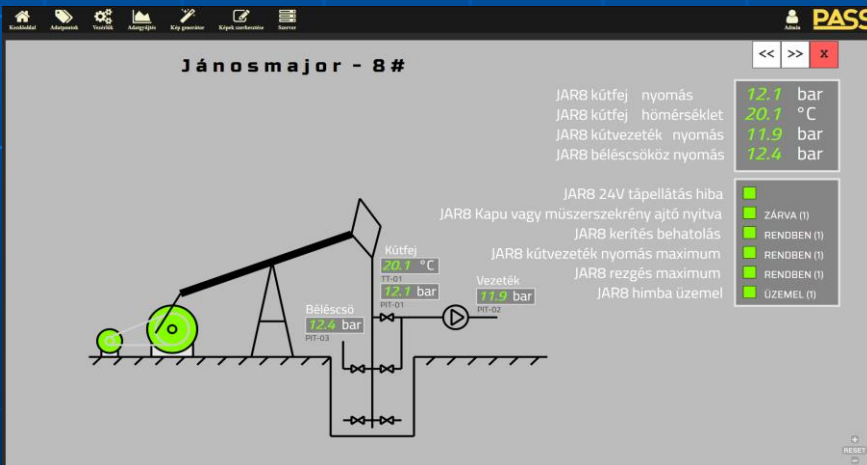
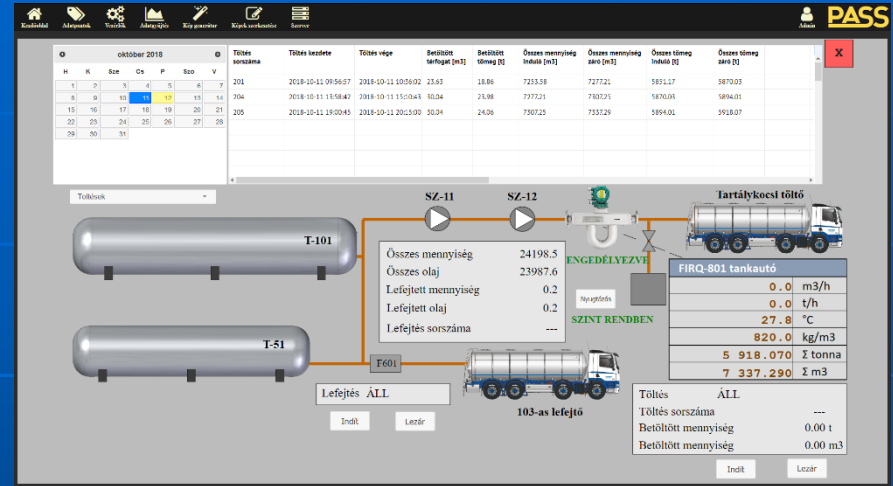
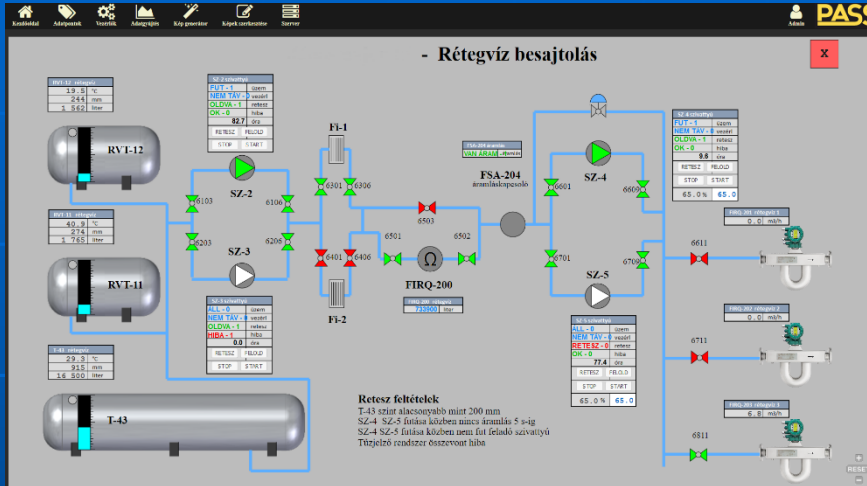
PASS SCADA AND MANAGEMENT

Oil extraction



PASS SCADA AND MANAGEMENT

Oil extraction Scada level



PASS SCADA AND MANAGEMENT

Oil extraction Management level



REPORT DAILY

Management report FROM 2018-10-30 TO 2018-10-30

Oil wells
 Water source wells
 Water injection wells

Well	Oil production (BAU)	Gas production (Mcf/d)	Water production (BAU)	Wellhead pressure (psi)	Fineline pressure (psi)	Annulus pressure (psi)	Remark
In-1	18.9	25.6	25.8	111.7	105.9	105.9	
In-2	58.4	41.3	27.7	127.6	105.9	129.1	
In-3	44.7	26.2	57.2	65.3	58.5	65.5	
In-3	302.5	1775	75.5	248.0	78.3	250.9	
In-5	155.4	400	18.8	118.9	78.3	97.2	
In-6	101.9	130.2	12.0	124.7	121.8	129.1	
In-9	41.5	25.6	16.4	140.7	121.8	121.8	
Pemj-1	751.6	495.7	4.4	456.4		1577.9	
Pemj-24	654.8	459.7	4.4	409.4	94.3	735.2	
Pemj-4A	469.2	121.5	3.1	290.1	58.0	290.1	
Pemj-4A	370.5	168.4	9.8	397.4	60.9	0.0	
Pemj-1	672.4	339.4	6.1	581.6		0.0	
Pemj-1	303.8	234.4	3.8	559.8		14.5	
Pemj-9	112.0	77.7	1.9	87.0	45.5	0.0	
LACT	4037.4	2322.1	256.0				

PASS SCADA AND MANAGEMENT

Oil extraction Management level

Processing report in email

Dear All,
Please find below the daily production report:

Oil wells							
Well	Oil production (bbl/d)	Gas production (Mscf/d)	Water production (bbl/d)	Wellhead pressure (psi)	Flowline pressure (psi)	Annulus pressure (psi)	Remark
Ist-1	19.5	25.6	27.0	110.2	105.9	107.3	
Ist-2	39.0	41.4	27.7	127.6	104.4	129.1	
Jar-1	47.2	26.5	57.2	75.4	58.0	60.9	
Jar-3	303.8	177.6	76.1	248.0	78.3	250.9	
Jar-5	156.6	40.0	13.8	110.2	75.4	100.2	
Jar-8	103.8	110.5	12.6	130.5	127.6	133.4	
Jar-9	41.5	25.8	15.1	146.5	127.6	126.2	
Petny-1	754.8	488.3	5.0	617.9		1363.4	
Petny-2A	639.7	467.5	5.0	507.6	94.3	725.2	
Petny-4A	469.8	130.4	2.5	290.1	58.0	290.1	
Petk-6A	375.5	166.4	4.4	398.9	60.9	0.0	
Petk-1	678.7	320.0	7.5	581.6		0.0	
Petk-3	300.0	215.6	3.8	559.8		0.0	
Petny-9	115.7	74.9	1.9	79.8	43.5	0.0	
LACT	4045.6	2310.5	259.8				

Water injection wells				
Well	Injection rate (bbl/d)	Wellhead pressure (psi)	Annulus pressure (psi)	Remark
Jar-6	127.1	636.7	0.0	

Regards,

PASS SCADA AND MANAGEMENT

COMPANY PRODUCTION MANAGEMENT

WELL 1

Wellhead pressure	data bar
Wellhead temperature	data °C
Flowline pressure	data bar
Annulus pressure	data bar
Previous day oil production	data m3/d
Previous day water production	data m3/d
Previous day gas production	data m3/d
Oil transport	data m3/d

Chart

OIL COMPANY PRODUCTION MANAGEMENT

PRODUCTION REPORT

FROM 2018-09-08 TO 2018-09-08

Oil wells				
Well	Oil production (bbl/d)	Gas production (Mscf/d)	Water production (bbl/d)	Wellhead pressure (psi)
Water source				
Well	Water production (bbl/d)	Gas production (Mscf/d)	Wellhead pressure (psi)	Flowline pressure (psi)
Water injection wells				
Well	Injection rate (bbl/d)	Wellhead pressure (psi)	Annulus pressure (psi)	Re

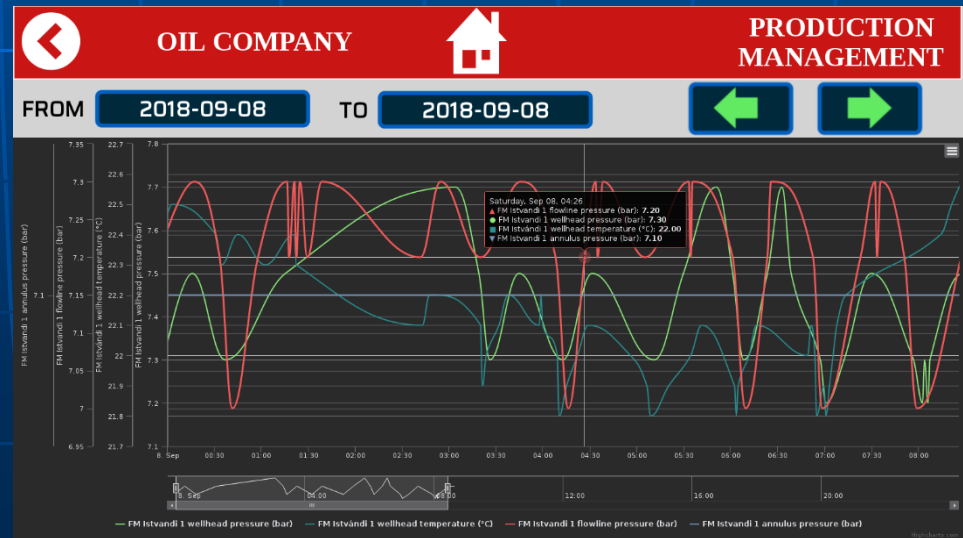
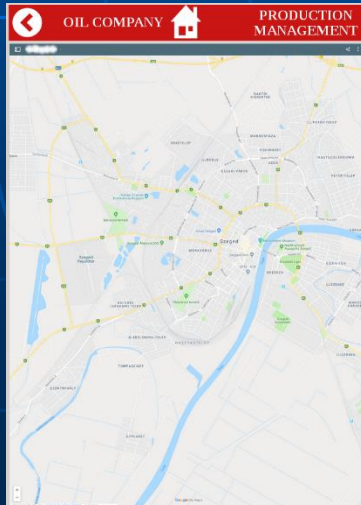
OIL COMPANY PRODUCTION MANAGEMENT

PRODUCTION REPORT ZONE2 AREA

ZONE1 AREA MAP

PREVIOUS DAY TOTAL OIL ##### m3 ##### bbl

PREVIOUS DAY TOTAL GAS ##### m3 ##### bbl



PASS SCADA AND MANAGEMENT

Thank you for your attention!

www.promech.hu

www.automatika.hu