Risk Management in Energy - 2020

«Raw ~~oil~~ industrial data refining. New source of energy income for digital production. BUT only valid with **TRUSTED** data»

Andrey Suvorov
CEO, Adaptive Production Technology LLC
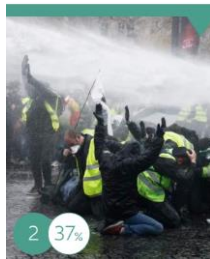(APROTECH)

28 May 2020

Digital production: RISK

Does your Board include it into agenda ?

TOP 10 RISKS 2020 – NEW PRIORITIES

1 39%

2019: 37% (2)

Cyber incidents
(e.g. cyber crime, IT failure/outage, data breaches, fines and penalties)

2 37%

2019: 37% (1)

Business interruption
(incl. supply chain disruption)

3 27%

2019: 27% (4)

Changes in legislation and regulation
(e.g. trade wars and tariffs, economic sanctions, protectionism, Brexit, Euro-zone disintegration)

4 21%

2019: 28% (3)

Natural catastrophes[1]
(e.g. storm, flood, earthquake)

5 21%

2019: 23% (5)

Market developments
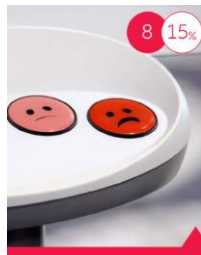(e.g. volatility, intensified competition/new entrants, M&A, market stagnation, market fluctuation)

2020 - 1
2016 - 3
2013 - 13

6 20%

2019: 19% (6)

Fire, explosion

7 17%

2019: 13% (8)

Climate change
/increasing volatility of weather

8 15%

2019: 13% (9)

Loss of reputation or brand value

9 13%

2019: 19% (7)

New technologies
(e.g. impact of Artificial Intelligence, autonomous vehicles, 3D printing, Internet of Things, nanotechnology, blockchain)

10 11%

NEW

Macroeconomic developments
(e.g. monetary policies, austerity programs, commodity price increase, deflation, inflation)

Source: Allianz Risk Barometer 2020

WHAT CAN WE DO WITH THIS RISK

AVOID

ACCEPT

TRANSFER

MITIGATE

Executive communication
Unplanned outages cost
START

Cyber insurance
Legislation

People
Process
Technology

Digital production: Opportunity

Raw industrial data refining – new source for sustainable growth

Do you remember – crude oil story...
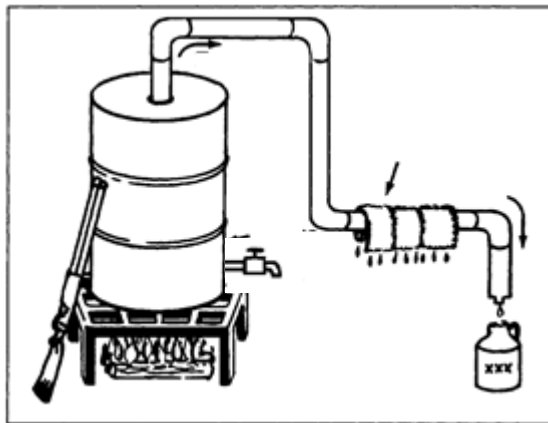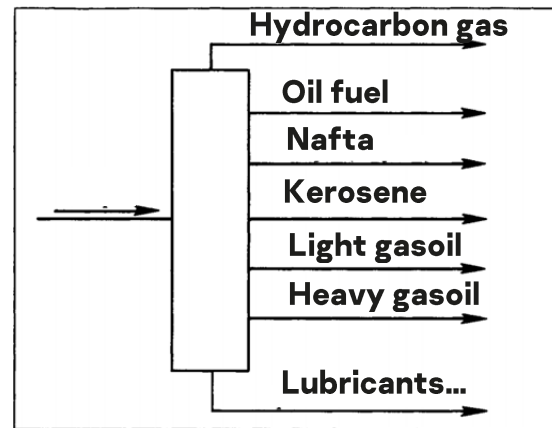
Hydrocarbon gas
Oil fuel
Nafta
Kerosene
Light gasoil
Heavy gasoil
Lubricants...

Crude oil as energy
before XIX cen.

Kerosene for oil lamps
XIX – начало XX века

Deep separation
Today

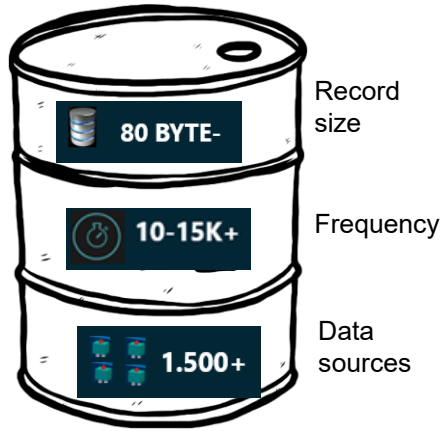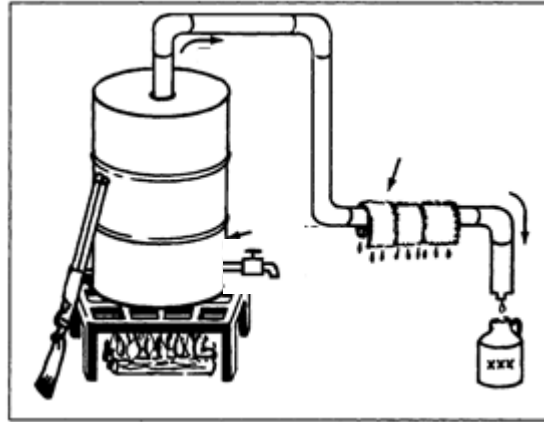| 0% | 40% | 90%+ |

Source: Thanks to W. Leffler "Petroleum refining"

Industrial «raw» data. Digital XXI century.

Record size
80 BYTE-

Frequency
10-15K+

Data sources
1.500+

Average tech.process
100 Gb/min

Typical SCADA **(TODAY)**
15% assets are only connected !!!

Raw Oil

Industrial Data

?

Source (WEF forum) : ww3.weforum.org/docs/WEF_White_Paper_Technology_Innovation_Future_of_Production_2017.pdf

Case studies

SCADA

ADVANCED MONITORING

PREDICTIVE MAINT.

Raw Industrial Data

ANOMALY DETECTION

DYNAMIC KPI's

MES, ERP ENRICHMENT
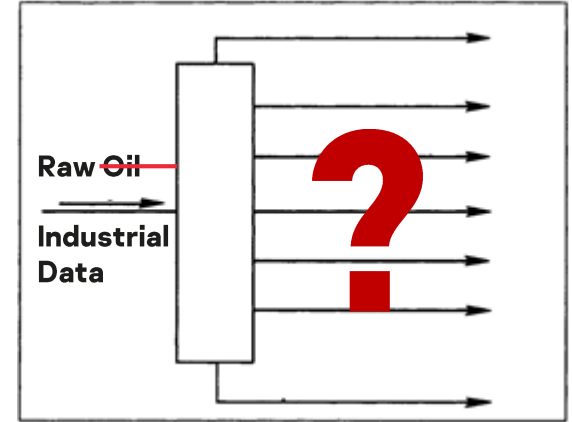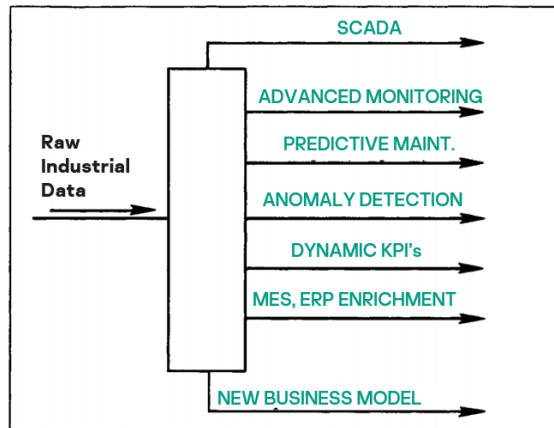
NEW BUSINESS MODEL

To increase business values due to deeper industrial data collection and processing

15+% - up to 100%

O&G (Europe)

Outage prevention:
Pump failure prediction (**12 days** in advance)

SKF

New business model:
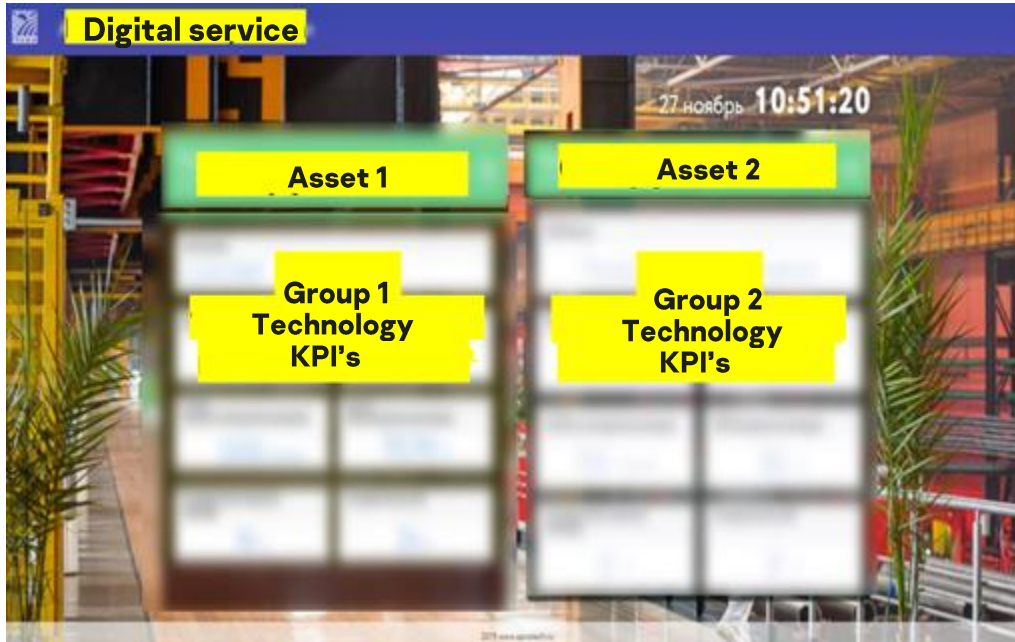Rotation-as-a-service

Source: Siemens projects

Our flagship case study

CHELPIPE GROUP

Result :
- Digital application
- 10 dynamic KPI's
- Agile deployment
- Trusted data (Industrial GW)

«Adaptive production Technology» (APROTECH)

JV:

kaspersky

Partnership:

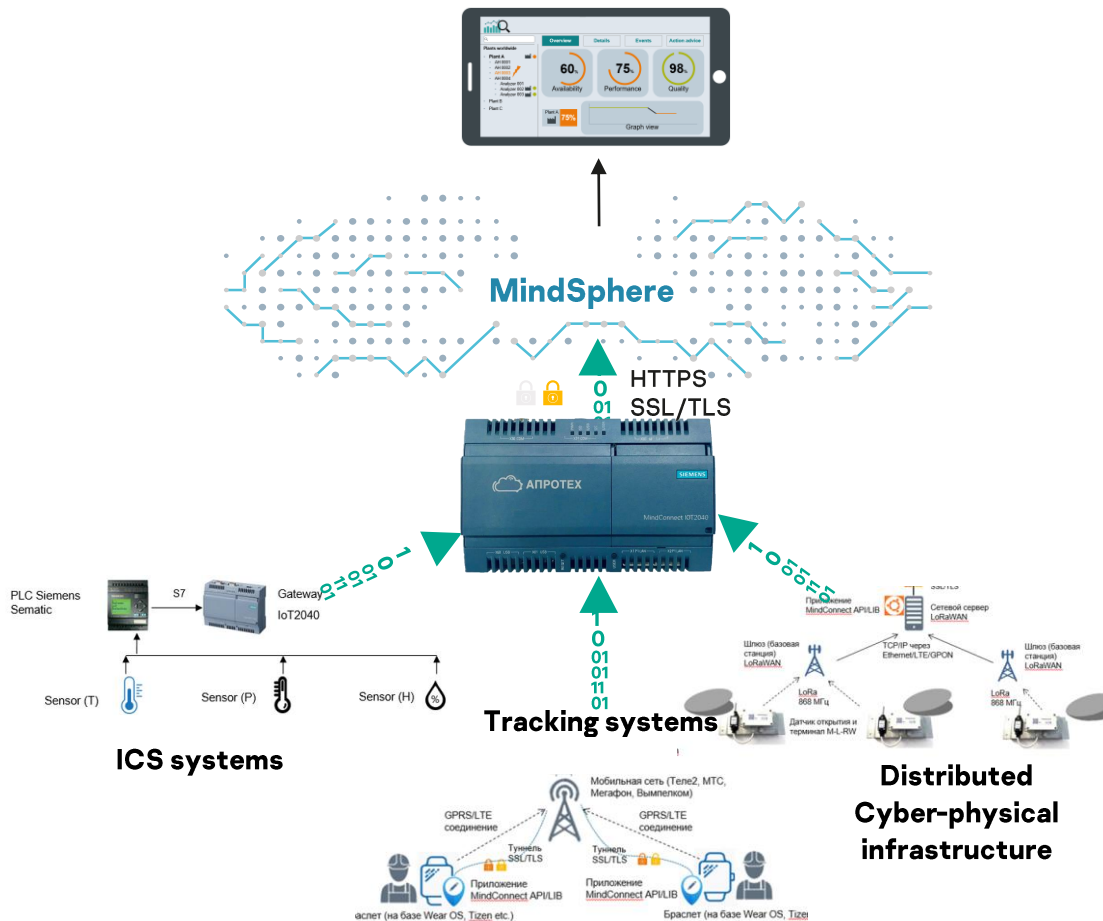| Silver Partner	
MindSphere	SIEMENS

IKS 1000GP (AVAILABLE !)

Trusted industrial data:
- Vertical architecture
- Asset connection to IIoT platform
- Secure by design

Typical architecture

MindApps (digital services)

MindSphere (IIoT platform)

IKS 1000GP (Industrial GW)

Assets (industrial data)

THANK YOU

- **Cyber RISK – your Board Room next meeting topic**
- **"Raw" industrial data – new source of your income. Trusted data.**
- **Ready to share our expertise and drill your industrial data**

(APROTECH Team)

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Know your RISKS and drive the NEW OPPORTUNITY