Creating a safety culture for a sustainable future in Petrobrazi Refinery

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More than 160 years of crude oil refining in Romania

Mehedinteanu brothers refinery

Crude oil extraction

► **Mehedinteanu brothers operated a refinery** in Ploiesti as early as 1857

► **Romania produced 275 tons** of crude oil in 1857, recorded by international statistics

► **Bucharest, the first city in the world to use kerosene for steet lighting** , on 1 st April 1857

► **In June 17, 1934 Creditul Minier Society** – Romanian capital company, established in early 1919, founded the refinery;

► **Creditul Minier – Brazi refinery** was almost all destroyed during the Second War , 1943-1944 was nationalized, becoming Brazi refinery, today Petrobrazi.

► **In December 2004, OMV** became the majority shareholder
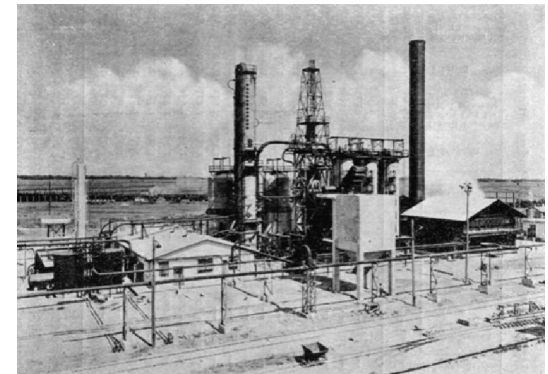
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Petrobrazi Refinery -
84 years Experience/ 14 years after privatization

▶ **Petrobrazi refinery is part of OMV Petrom SA**

▶ **Major units:**

     4.2   mn t/y crude distillation
     1.5   mn t/y FCC
     0.8   mn t/y Delayed coker
     0.5   mn t/y CR
     1.25 mn t/y Gas oil Hydrofining
     0.8   mn t/y FCC post-treater
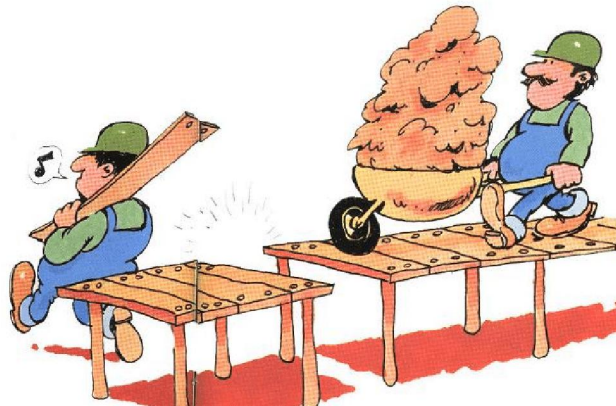   Cogeneration group

▶ **Products obtained:**

     Gasoline, diesel fuels;
     Liquified gases;
     Aviation fuels (Jet A1);
     Petroleum Coke;
     Sulphur, ETBE.

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Safety at the beginning

Main obstacles :

► Attitude (attitudinal obstacles and misconceptions of leaders and employees)

► Roles and responsibility

► Training

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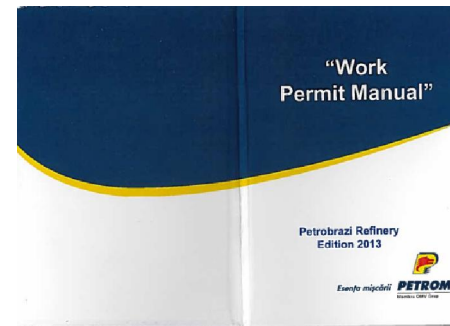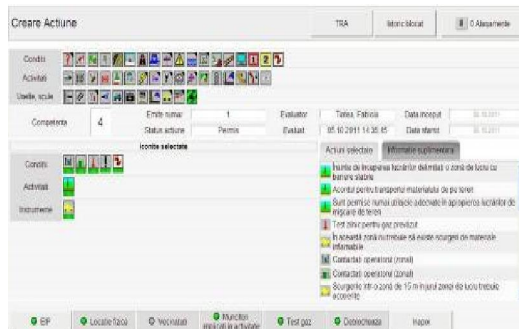# Petrobrazi safety improvements over the years

Safety Initiative Program 2011 - 2013

- ✓ DuPont Coaching Program
- ✓ Training Organization
- ✓ Electronic Work Permit Procedure
- ✓ Rework Operation Manuals
- ✓ Rework/ development P&ID
- ✓ New Warehouse Concept
- ✓ ESD Docum. and Regular Check

- ✓ Pre Start Up Safety Review
- ✓ Retro HAZOP
- ✓ Quantitative Risk Analysis
- ✓ Ex Zone Plan Revision
- ✓ Noise Assessment
- ✓ Contractors Audit & Safety Program
- ✓ Communication Concept

Petrobrazi safety improvements over the years

► **Electronic Work Permit**

► **Procedures and safety quidelines**

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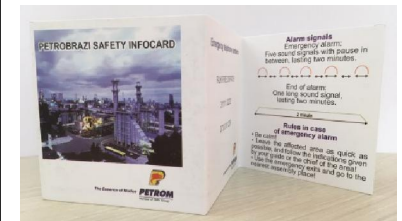
Petrobrazi safety improvements over the years

►**Retro - HAZOP**
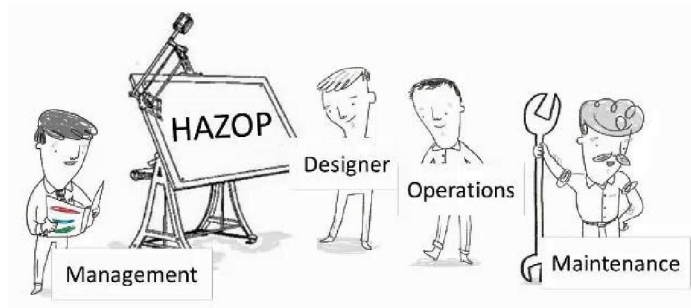
► **ESD Documentation and regular checks**

All ESD and process related shut off/on systems in Petrobrazi Refinery were verified and updated

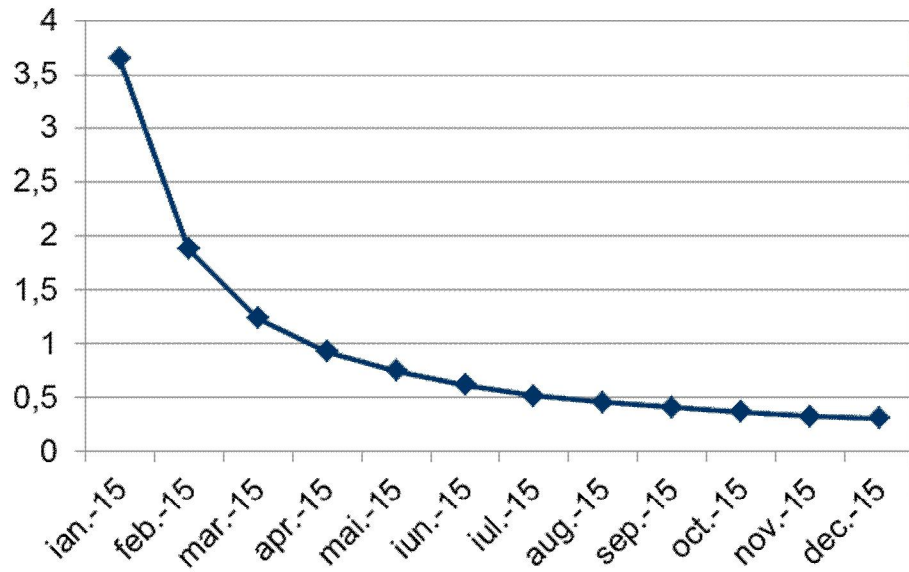**OMV Petrom**

Why people break rules

Rule breaking is driven by personal attitude, the environment employees operate in, and external pressure, which cause employees to make decisions at the spur of the moment to either follow or break the rule.

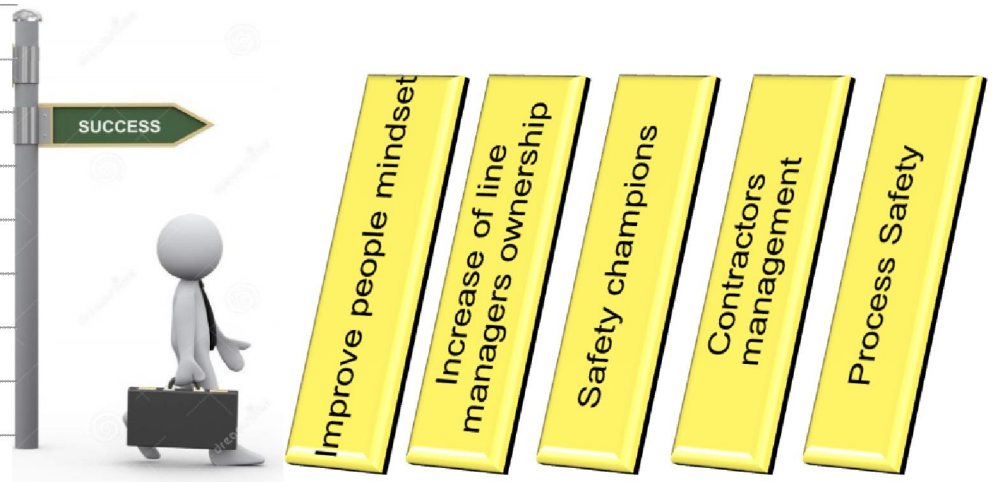*The same rule can be broken for different reasons at different times.*

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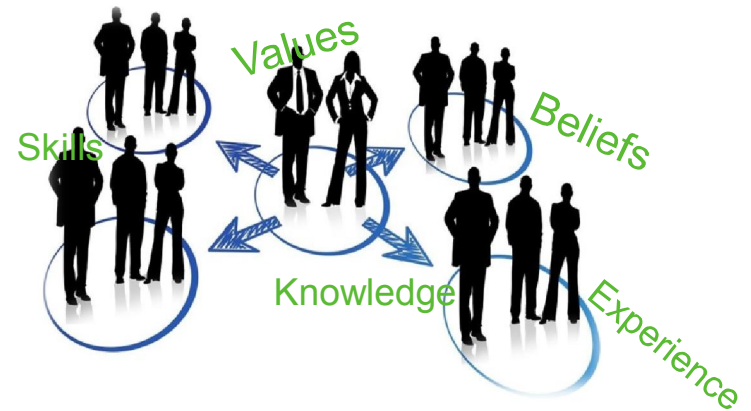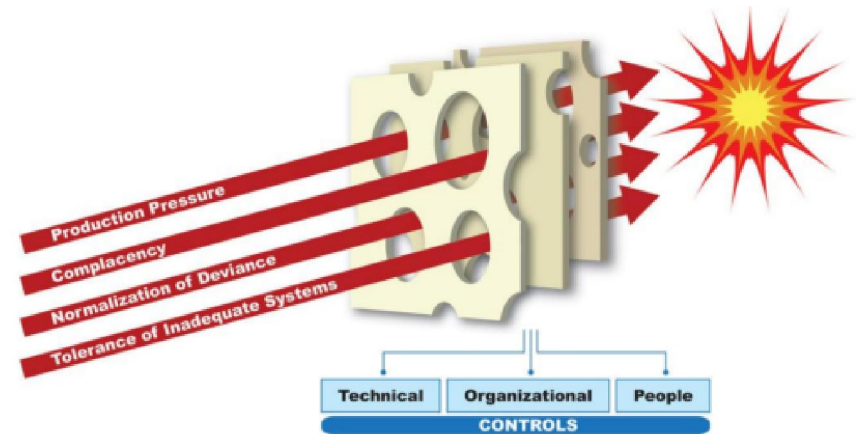# Petrobrazi safety improvements over the years

LTIR combined employees and contractors

Goal : „Zero harm: No losses"

Improve people mindset

Increase of line managers ownership

Safety champions

Contractors management
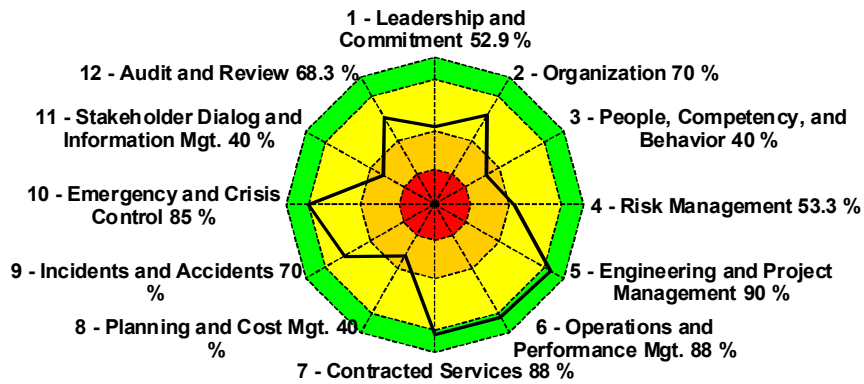
Process Safety

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Why focus on culture?

Simplified culture definition *"The way we do things around here"*

► Safety management system is not effective unless accompanied by a good safety culture

► Wish to stay alert to potential risk factors that increase the risk of a major disaster

► Pro-active approach involving self-assessment and feedback of less visible elements of safety management system

► Both managers and employees take greater responsibility for operations, and results improve.

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Petrobrazi safety improvements over the years

► **Contractors' management**

1 - Leadership and Commitment 52.9 %

12 - Audit and Review 68.3 %

2 - Organization 70 %

11 - Stakeholder Dialog and Information Mgt. 40 %

3 - People, Competency, and Behavior 40 %

10 - Emergency and Crisis Control 85 %

4 - Risk Management 53.3 %

9 - Incidents and Accidents 70 %

5 - Engineering and Project Management 90 %

8 - Planning and Cost Mgt. 40 %

6 - Operations and Performance Mgt. 88 %

7 - Contracted Services 88 %

Level 1 Sub standard < 25%	Level 2 Basic awareness 25 - 50%
Level 3 Satisfactory 51- 85%	Level 4 Best Practice >85%

► **Safety champions**

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Petrobrazi safety improvements over the years

► **Trainings**

► *Own employees*

Induction trainings (for new employees)

Periodically trainings

General training

Trainings requested by the law

► *Contractors*

Access in the refinery

Turnaround

Supervisors training – "License to sign "
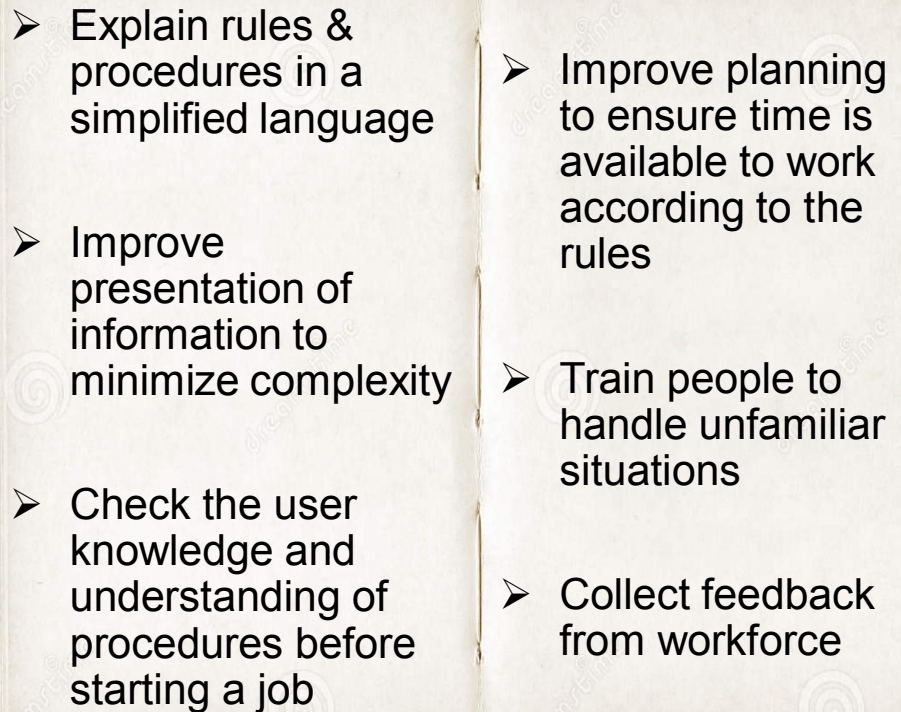
► **Safety campaigns**

How to change wrong behavior?

Last minute risk assessment

Safety meetings

Department meetings

- ➢ Explain rules & procedures in a simplified language

- ➢ Improve presentation of information to minimize complexity

- ➢ Check the user knowledge and understanding of procedures before starting a job

- ➢ Improve planning to ensure time is available to work according to the rules

- ➢ Train people to handle unfamiliar situations
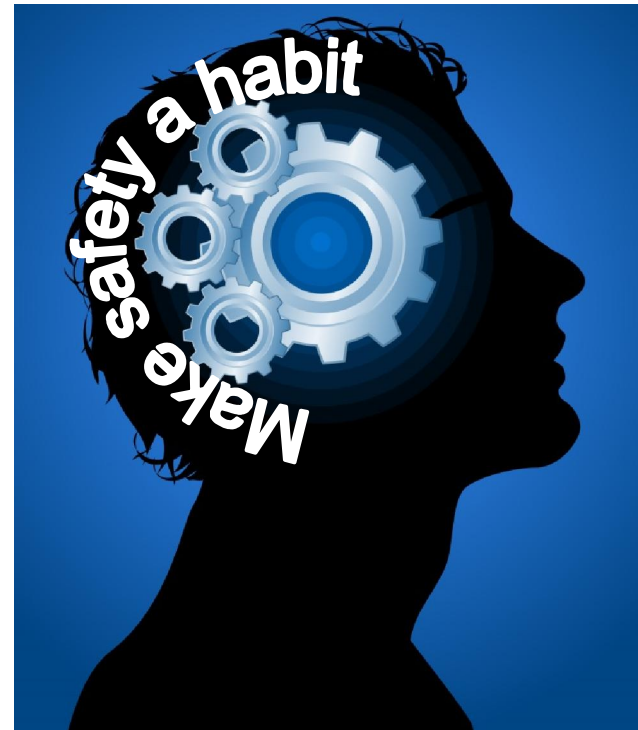
- ➢ Collect feedback from workforce

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Petrobrazi safety improvements over the years

►**Reward and recognition**

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What we want to achieve

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Thank You!

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